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Implementing Value Capture in Israel: An Examination of Recent Tools and Policies for Urban Renewal and Earthquake Preparedness

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Abstract

The working paper investigates one of the most innovative tools in the existing Israeli planning toolkit. TAMA 38, also known as National Outline Plan No. 38, uses value capture in order to help the government protect its citizens in case of an earthquake. How is this done? Quite simply, by upzoning an entire country, and specifically by granting owners extra building rights to sell to developers. These developers build extra housing units for sale at market value and, in parallel, carry out additional works in order to reinforce the existing building against future earthquakes, renovate the building, and in most cases enlarge existing flats. In other words, the value captured by the sale of development rights is used to provide for a public good that the government views as very important. Public authorities enable this by guiding ‘mom & pop’ owners throughout this process. Value is captured in transactions by private owners as well as public authorities and used to prepare landowners’ properties to face a potential natural disaster.

To date, hundreds of TAMA 38 projects have been built, most of them in areas with high land values. At the same time, peripheral towns exposed to greater seismic threats are still experiencing implementation challenges. This report examines TAMA 38 while adding to international literature on the issue of value capture. Our hope is that scholars and practitioners in other countries facing similar hazards learn from the Israeli experience to be aware of potential pitfalls as they shape their own value capture policies, and to revisit their own policy frameworks with the Israeli approach in mind. The analysis is based on data collected from municipalities’ archives, real estate appraisers, and interviews with experts, developers, and policymakers. The overall focus is on the economic, legal, and planning challenges of value capture and their impact on Israeli towns and cities.

Keywords: Value capture, land value, public policy, local government, land use planning, property rights.

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Implementing Value Capture in Israel: An Examination of Recent Tools and Policies for Urban Renewal and Earthquake Preparedness

Introduction

The focus of this research is on National Outline Plan No. 38 (commonly known by its Hebrew acronym, TAMA 38) which was approved as a statutory measure by the Israeli government in 2005 (hereinafter: “the plan” or “TAMA 38”). Essentially, the plan upzones an entire country. Specifically, it grants owners of buildings built before 1980 extra building rights which they can sell to developers. These developers build extra housing units for sale at market value, and reinforce the existing building against future earthquakes, expand existing flats, and improve public spaces in the building. The developer makes a profit by selling additional housing units built on the plot. Local governments enable this transaction by guiding individual apartment owners throughout the process. The value captured by the sale of extra building rights is used to provide for a crucial public good: seismically sound buildings that will allow residents to face a potential natural disaster, and also allows apartment owners to improve their property at no cost for them (Levy 2017). In this process, land value increments stem from central government action: the approval of the TAMA policy which grants additional development rights. Those increments are utilized by the private market through their conversion to public goods that benefit individual owners and residents.

TAMA 38 is an example of a value capture approach worth investigating because it is a creative mechanism to secure the public good of earthquake retrofitted buildings. Lessons learned in Israel can become relevant to other jurisdictions, especially as other countries, like Mexico, are contemplating the use of the sale of building rights to help rebuild after earthquakes.

The case of TAMA 38 is also interesting to those outside Israel because it sheds light on the question of whether market-driven policies can increase urban resilience and promote regeneration. We suggest that TAMA 38 demonstrates the following downsides: spatial inequality, over-reliance on the market, and the accumulation of wealth in the hands of property owners in cities with high land values. In addition, the policy we present in this working paper sheds light on challenges cities and governments face when implementing value capture tools at a large, national scale.

Aims

The overarching objective of this study is to analyze a case study which sheds light on how and why land value capture may be a challenging approach to raise revenue and attain policy goals (in this case, disaster preparedness). This is done by exploring the case example of TAMA 38. The TAMA 38 policy presents an opportunity to study value capture and to elucidate generalizable lessons to other countries. We examine how TAMA 38 works, and specifically how it works as a value capture mechanism. The overarching questions are: What are the major characteristics of the Israeli National Outline Plan No. 38? Has it achieved its goals, and is it effective as a value capture mechanism? We describe the history and provisions of the National

Outline Plan, and review case examples that demonstrate its potential, as well as the challenges of its implementation. Specifically, we examine:

- The role of land value capture mechanisms in addressing crisis situations, and earthquakes in particular.
- The role of land value capture mechanisms in increasing housing supply and renewing urban neighborhoods.
- The impact of TAMA 38, as a national-level tool, on other (local) value capture instruments including betterment levies charged by local planning agencies.
- The way in which central and local government have adopted different perspectives regarding value capture.
- Legal principles that guide TAMA 38, and how they are implemented on the ground.
- The economic and financial feasibility and drivers of TAMA 38 projects, namely: how value is created in these projects and how it is reaped by private developers.
- Implementation challenges of TAMA 38, and of land value capture policies more generally.
- How land value capture instruments might create inequalities, specifically looking at the potential of value capture through TAMA 38 in peripheral versus non-peripheral towns.
- Unintended consequences of land value capture tools, including increased density and inability of municipal authorities to afford infrastructure to support newly built projects.

There is literature addressing the implementation of land value capture instruments in jurisdictions around the world. For example, Smolka (2013) reviewed value capture in Latin America, and its use for catalyzing rapid urban development. He notes how central governments passed laws to better utilize value capture increments, and how local governments adapted value capture for their own needs, without the support of national legislation. The case of the Israeli TAMA 38 also demonstrates an inherent tension between local and national goals, and between a variety of public interests. On one hand, the interest of central government to prepare for future earthquakes, and, on the other, the interests of municipalities to utilize TAMA 38 for urban renewal without harming the urban fabric and without fostering unwanted socio-economic consequences.

These concerns highlight that TAMA 38 is not implemented in a vacuum, and its application has raised concerns about social equity, similar to other value capture tools used elsewhere (Alterman 2012; Muñoz Gielen 2010).

Figure 1: Additional Floor Space Created in Each Floor in a TAMA 38 Project in the Township of Bat Yam, Israel (May 2016). Apartment owners expand their living space, while extra floors are added on top of the existing building. Concurrently, new protective beams envelope the building to protect it against future earthquakes.



Source: Authors.

For instance, Alterman (2012) notes that direct value capture is in fact a wealth-generating instrument that raises distributional questions. Likewise, in the Israeli arena, critics have argued that TAMA 38 projects, as public-private partnerships, are market-driven, and thus fail in areas where land values are too low to enable value capture.

Methodology, Sources of Empirical Data, and Data Collection Strategy

Fifteen years after it was conceived, it is possible to assess implementation outcomes of TAMA 38, its pros and cons, and its mechanisms in relation to public value capture. To conduct an initial analysis, we began by analyzing media reports, government documents and decisions, and parliamentary discussions. These sources allow us to identify the ideas behind the policy and its primary goals.

To get further understanding of the characteristics and distribution of TAMA 38 projects, we mapped their implementation in selected localities in Israel (data from municipal authorities). This was done first by contacting planners in a range of municipalities via phone or email. Second, we used data obtained from MADLAN website (<https://www.madlan.co.il/>), which collects data on planning permits issued by municipal governments. Finally, we contacted the Ministry of Construction and Housing, and specifically the Urban Renewal Authority, which collects data on urban renewal projects. The data obtained from the Renewal Authority enabled us to corroborate the data we received from each locality.

To complement our analysis, we used examples of individual projects by searching municipal archives, where planning permits, architectural renderings, and other data are stored. We used these sources to identify case studies that illustrate how the policy works.

To gain additional insight, we conducted 47 in-depth interviews with a variety of stakeholders (for a list of informants, see Appendix A). Interviews were conducted face-to-face or via phone, and most of them were recorded and digitized. The interviews targeted 3 interest groups: first, experts from the private sector including developers, planners, architects, lawyers and real estate appraisers; second, owners and tenants in apartments that underwent TAMA 38 projects; and third, local government experts, including planners and city officials whose experience with TAMA 38 shed light on its local context and application.

Interviews were semi-structured and based on themes related to value capture and the implementation of TAMA 38 as a policy (see Appendix B). Interviewees were also asked to fill out an online survey that maps the challenges and opportunities posed by the plan.

The online survey was also sent via social media (Facebook and LinkedIn) and email to targeted audiences: developers, apartment owners, and local government officials. In total, 180 respondents filled in the survey. Survey responses are distributed as follows:

Table 1: Online Survey Respondents by Group

Group	Number of respondents
Apartment owners	56
Developers	60
Local government (planners, city architects, and other public officials)	64
Total	180

Source: Authors.

We used SurveyMonkey as a platform to conduct these surveys. These data were collected and analyzed to create a broader picture of TAMA 38, and to understand the challenges associated with the process of its implementation.

Adding to the analysis, we also used the following sources of information:

- The legal text of TAMA 38 and other planning regulations that affect its implementation.
- Economic data related to captured land value, by interest group (developers, owners, public authorities), including costs (such as taxes) and benefits that create value uplifts in select projects.
- Planning decisions made by local planning authorities with respect to TAMA 38.
- Court and appeal tribunal decisions on disputes surrounding implementation.

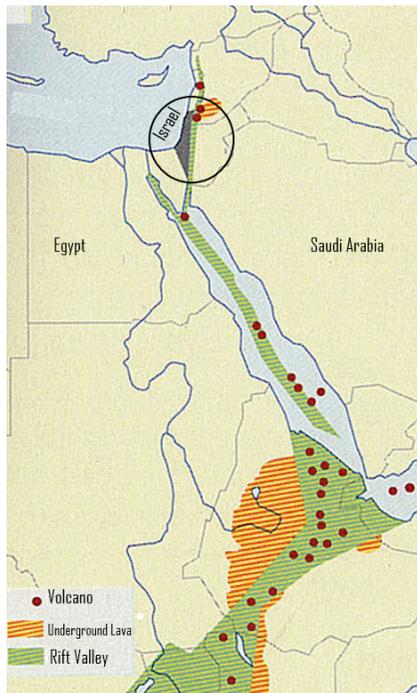
The Israeli Context

There are a few elements that are especially important to understand the Israeli context of TAMA 38. First, the physical, geographical, and in this case geological context of earthquake hazards in Israel. Second, the structural context, and more specifically the planning system in Israel. Third, the cultural context: the social and political currents in Israel informing policy, housing, and the use of value capture mechanisms.

Earthquake Hazards in Israel

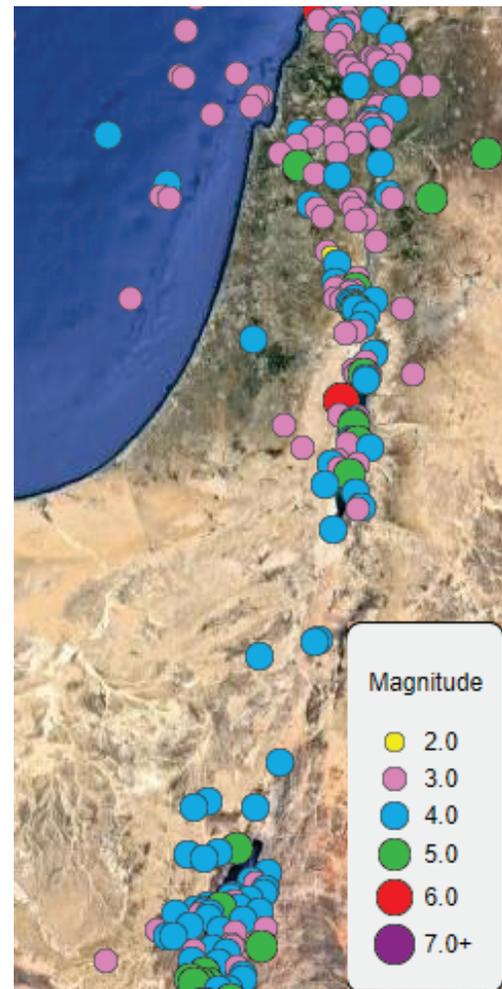
Israel sits alongside the Great Rift Valley, a 4000-mile trench that runs from Lebanon in the north to Mozambique in the south (see Figure 2). The valley demarcates several tectonic plates, including the Arabian plate in the East and the African plate in the West. Sitting between these plates, entire region is susceptible to earthquakes (Chorowicz 2005). Israel is situated in the northern section of the Rift Valley, also known as the Jordan Rift Valley, which in Israel stretches from the Golan heights to the Dead Sea and the Gulf of Akaba, near the city of Eilat (see Figure 2). This makes the eastern parts of the country (bordering the Jordan river and in the Arava desert) more vulnerable to earthquakes (Belitzky 2002). Figure 3 represents felt earthquakes from January 1, 1901 to January 1, 2019. It shows 303 cases where earthquakes were felt by residents (The Geographical Institute of Israel 2019). A major quake of a magnitude of 6.2 on a Richter scale occurred in 1927, impacting large swaths of urban and rural areas (marked in red in Figure 3). It was felt for 35 seconds and brought havoc to many cities. Prior to this disaster, in 1837 another major earthquake ruined large parts of the city of Safed. Available data shows that earthquakes' epicenters are mostly located in the region of the Jordan Valley and the Great Rift Valley (Figure 3).

Figure 2: The Great Rift Valley



Source: Authors' adaptation from [The Center for Technological Education in Israel](#)

Figure 3. Felt Earthquakes, January 1901–January 2019



Source: The Geographical Institute of Israel (2019).

The 1927 earthquake demolished large parts of the cities of Tiberias, Nablus, Jerusalem, and Ramleh (see Figure 4) and resulted in hundreds of casualties and devastated buildings (Zohar et. al. 2014).

Ongoing seismic threats have since encouraged the Israeli government to use a variety of policy tools in order to mitigate the future effects, to anticipate the damages, and to prepare local governments and civilians for future hazards. For example, the Geographic Institute of Israel was charged with preparing site reports, and for implementing early warning systems. The Home Front Command was tasked with disseminating information to the public on earthquake preparedness, and for rescuing people from buildings wreckage (The Home Front Command of Israel 2016).

Figure 4: Damages of the 1927 Earthquake in Palestine



Source: The Israeli National Library Archives, 1927.

Indeed, Israel has honed important skills in dealing with emergency situations. However, periodic national exercises designed to improve the integrated response of government authorities to an earthquake suggest that the country is ill-prepared to handle a severe earthquake (Elran and Altshuler 2012).

To make matters worse, a government survey found that thousands of buildings were constructed in a manner that does not make them earthquake ready. In fact, the Israeli Building Code introduced a Building Standard (*teken*) for earthquake-resistant construction in 1975 (The Standards Institution of Israel 1995). The standard (No. 413) mandated certain construction improvements, but it was only in the 1980s that the standard was enforced and implemented. As a result, more than 100,000 buildings (residential and non-residential) built before 1980 are structurally unfit to withstand strong earthquakes. There are no exact numbers regarding how many residential buildings were constructed without earthquake-resistance standards, however experts estimate that at least 120,000 buildings were constructed before 1980 and are therefore ill-prepared to face earthquake damage.

Figure 5: Expected Earthquake Damage in Israel



Source: Authors

According to existing estimates (see Figure 5), a strong earthquake would cause severe damage to both lives and the built environment. At least 28,600 buildings would be devastated or suffer severe damage, an additional 290,000 buildings would suffer some damage, 7,000 people would be killed, 8,600 people would be severely injured, 9,500 people would be trapped under the rubble, and approximately 170,000 people would lose their homes (National Steering Committee for Earthquake Preparedness 2011).

Moreover, while the government incentivized private owners to reinforce residential buildings, it had not allocated resources to upgrade public buildings (State Comptroller of Israel 2011).

Seismic risk assessments can never be completely exact. However, based on extrapolation of existing data, experts have concluded that future earthquakes that register 6 and above on the Richter scale could have disastrous implications.

Stronger earthquakes are expected every 100–150 years, and there is a 10 percent chance for such an earthquake to occur in the next 50 years (Begin 2005). These probabilities highlight the urgency of implementing policies designed to deal with future earthquakes, including TAMA 38.

Israeli Planning

This section briefly introduces the hierarchical Israeli planning system. Overall, the Israeli planning system is top-down and hierarchical, mostly controlled by central government (Alterman 2001; Mualam 2018a; Rachewsky 2010). There are three tiers of planning, as depicted

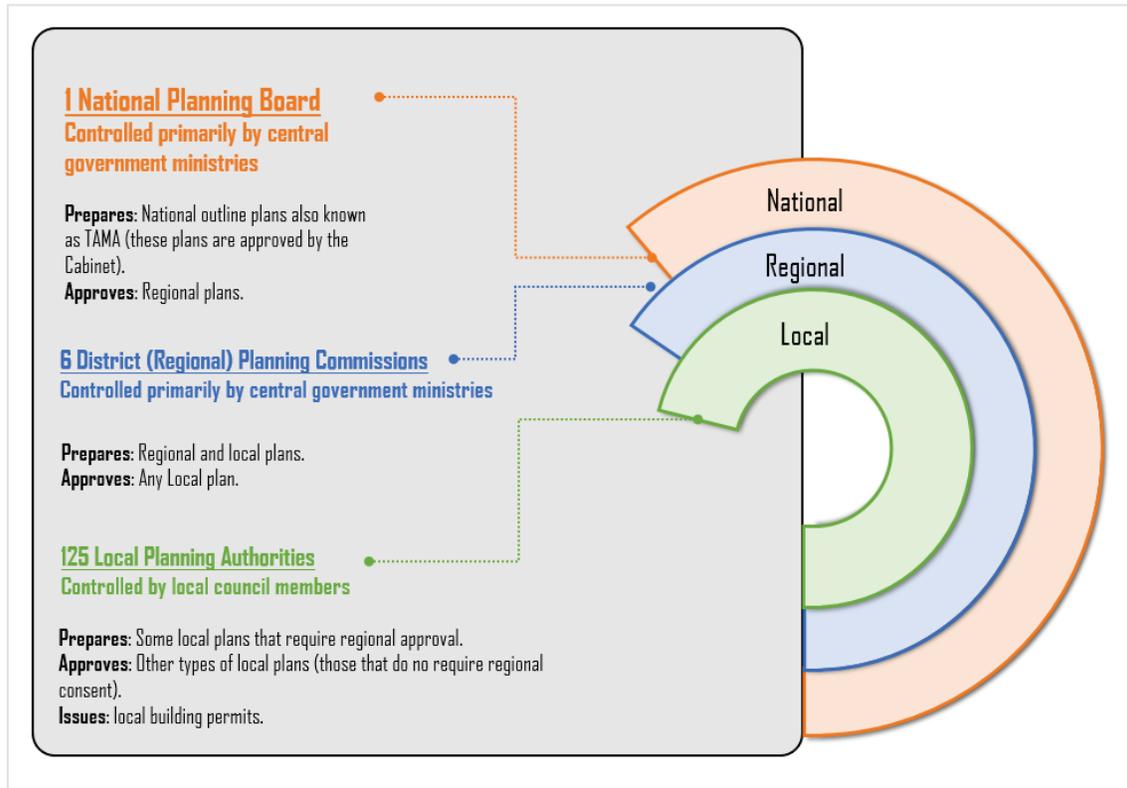
in Figure 6. First, the national tier, which includes the National Planning Committee (NPC) as the supreme planning agency. The National Committee prepares national level plans, also known as 'National Outline Plans,' or TAMA. These plans are, for the most part, general statutory documents that govern a certain aspect of spatial planning. For example, the NPC has prepared a national outline plan for nature reserves (TAMA 8), forests (TAMA 22), seashore and coastal development (TAMA 13), train routes (TAMA 23), airports (TAMA 15), and more. These plans are approved by the central government (the Cabinet) and then become law. They are usually broad in scope, and most of them apply to the entire geographic area of the country.

The next tier of planning is managed by district level planning commissions, which oversee regional plans that relate to metropolitan regions, as well as to the countryside (Razin 2015). Like the NPC, district-level planning bodies are controlled primarily by representatives of central government. Statutory plans approved by district-level planning agencies relate to cities by planning single streets or plots, or even entire neighborhoods. The control of district-level agencies over local matters is therefore quite significant. In recent years, however, planning powers have been decentralized to help districts focus on large-scale plans, while delegating powers to localities.

This decentralization means that the third tier, that of local planning commissions, has become more significant, increasing the power of mayors and municipalities to pass a range of statutory plans. Following significant reforms in the planning system, in 2014, cities have been given greater discretion to plan and issue planning permits in their jurisdiction. This is a cast shift in the context of Israeli planning, in which, traditionally, cities have had limited power to control their own development.

The structure of the Israeli planning systems means that, unlike in the U.S., planning powers are not dispersed among local autonomous planning agencies (Alterman and Gavrieli 2008). Instead, despite recent shifts in the direction of decentralization, planning powers are held primarily in the hands of regional and national planning agencies, which are comprised of representatives of a variety of government ministries. In other words, although mayors have the power to govern and to approve statutory and strategic plans, these powers are confined by regional and national statutory provisions.

Figure 6: The Israeli Planning System



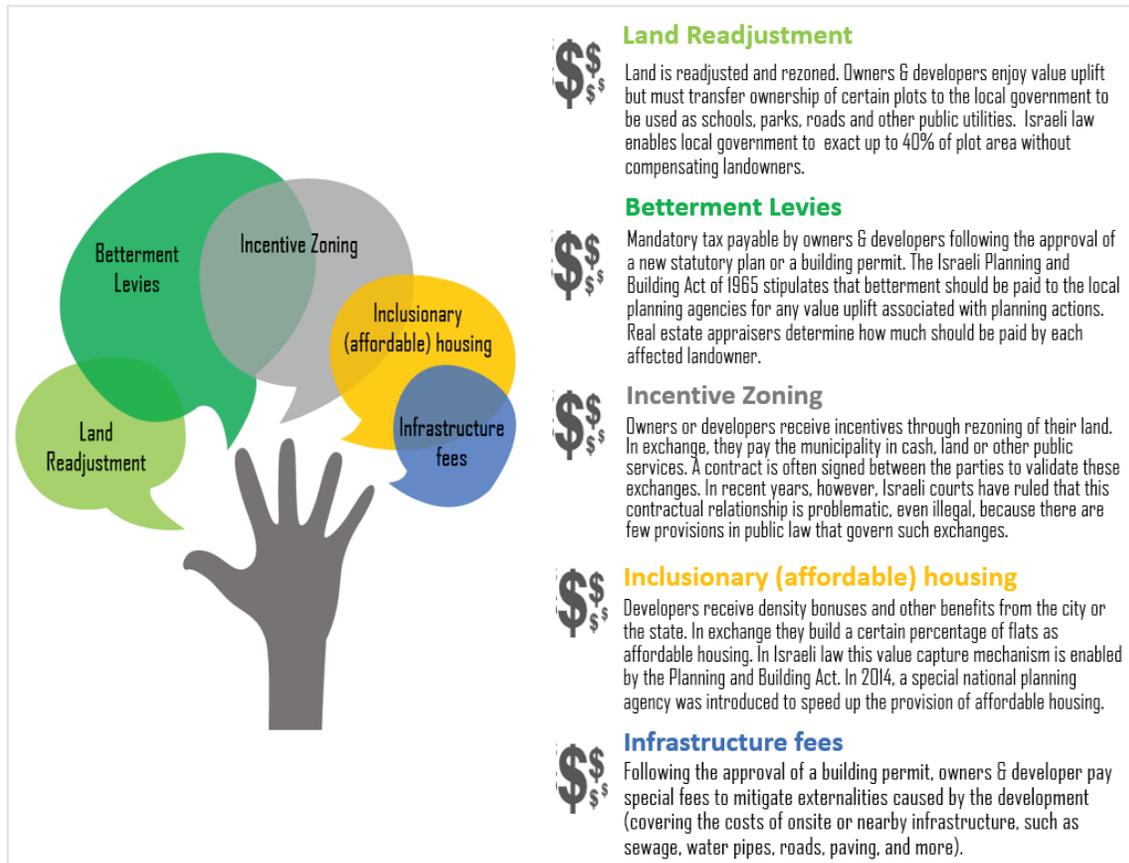
Source: Authors.

This structure brings with it several difficulties: it means that the national government can make planning decisions that do not consider the specific needs of local governments and jurisdictions. It also means that local planning agencies have little power to resist these top-down directives issued by central government.

Value Capture in Israeli Planning

Israeli planners have adopted a variety of value capture mechanisms (Alterman, 1988; Mualam 2018b). Value capture in the Israeli arena is enabled by a range of statutory instruments, including Acts of Parliament, local regulations, and statutory plans (see Figure 7). Given high levels of fiscal strains on local and central government (Amrani 2012; Lasri and Shwartz 2012), these mechanisms have been used to facilitate development and the provisions of a range of public goods.

Figure 7: Major Types of Land Value Capture Instruments in Israel



Source: Authors.

The following table further analyzes the major types of value capture instruments, frequently used during the development process in Israel. These mechanisms correspond with similar ones identified in global planning literature. The Israeli version of these instruments is obviously context-specific, yet the motivation behind them is similar to that of their global counterparts: to enable public or private bodies to capture land value and to use it to benefit broader societal goals. In Table 2 we categorize these instruments according to several criteria.

In Israel there are both national and local value capture instruments used to supply public infrastructure, finance planning activities by municipal agencies, and achieve specific goals set by either local or national government. TAMA 38 is a statutory document that falls under the rubric of ‘incentive zoning’. The idea behind it is to upzone cities, so that any plot on which a residential building had been constructed before 1980, could receive ‘value’ in the form of extra building rights. The value is not captured by public agencies directly, but rather by private owners and entrepreneurs. The latter use this value to perform a public task; a duty which would otherwise have to be carried out by government.

Table 2: Categorization of Different Types of Value Capture Mechanisms in Israel

Type of value capture mechanism	Mandatory or Discretionary mechanism?	Type of Payment (Cash, land, other services & public amenities)	Payable by whom?	Consensual mechanism (C) or Non-Consensual (N)?	Public authority that captures value	Enabling legislation	The use of the captured value
Land Readjustment	Discretionary	Land	Owners / Developers	Can be both.	Municipal authorities	Planning & Building Act 1965 and its regulations.	Certain private parcels become public land, often owned by the municipality who uses them to build public infrastructure and utilities such as roads, schools, parks, and kindergartens. Those utilities often serve nearby properties that enjoy value uplift owing to their proximity to such amenities and services.
Betterment Levies	Mandatory	Cash	Owners / Developers	N	Municipal planning commissions	Planning & Building Act 1965 and its regulations.	Money is used to allow planning committees to finance their ongoing activities, to build hard and soft infrastructure. Money can be used to defray the costs of planning public services even if those services are unrelated to the proposed development.
Incentive Zoning	Discretionary	Services & Amenities	Owners / Developers	C	Local/ State government, developers, or landowners.	Local statutory plans.	Diverse use. Developer who benefits from zoning commits to carrying out a range of works that benefit state interests, the city at large, the neighborhood, and/or private landowners. For example, the preservation of historic monuments or the provision of open space. TAMA 38 is such a tool.
Affordable housing	Discretionary (depends on plans approved by planning commissions).	Services & Amenities	Owners / Developers	Can be both	Local / State government	Local or national statutory plans.	This mechanism can be considered a sub-type of incentive zoning. Certain statutory plans mandate a fixed percentage of housing units to be designated as affordable units. A developer who enjoys upzoning commits to constructing affordable housing. Thus, value uplift from upzoning is used to finance the building of these more affordable housing.
Infrastructure fees	Mandatory	Cash	Owners / Developers	Can be both	Municipal authorities	Municipalities Ordinances and bylaws.	Money collected is used to finance local 'hard' infrastructure such as sewage and water pipes.
Land Sales Tax	Mandatory	Cash	Owners who sell property	N	State government	Land Taxation Law	Land sales tax is used by central government as a general revenue to finance a range of activities, not necessarily connected to housing or planning. Unlike the abovementioned value capture instruments, Land Sales Tax captures value which is not created through planning and development activities. Rather, it is used to capture added value of the property, which is created through increase in market prices, irrespective of development. Thus, it is possible not to view it as a value capture instrument in the first place. Having said that, we list it here because the TAMA does affect it.

Source: Authors

Social, Economic and Political Context of Value Capture in Israel

In an age of competition between cities and states, and given fiscal strains and pushes for austerity measures, governments “are pushed even further to make urban development decisions based on political, competitive and financially relevant considerations” (Janssen-Jansen 2016, 12). This results in experimentation with a broader set of planning instruments (Legacy and Leshinsky 2016). Israel is no different. There are several social and political factors that make Israel ripe for the introduction and expansion of value capture tools. Many of these trends are not unique to Israel, and, to the contrary, are the results of global changes.

Housing Crisis

Value capture tools in Israel can also be understood in light of an ongoing housing crisis. Since 2006, a steady increase in housing prices has created a significant crisis of affordability. With the price of apartments rising at an average of 6.23 percent annually since 2006, rent and mortgage payments take up a larger portion of people’s income (Weiss 2014; International Monetary Fund 2017). A rigid real estate supply made it harder to adjust to strong demand (OECD 2018). Low interest rates and a growing market of investors have also accelerated house prices. As a result, “the average house price has become internationally high, at nearly eight times average household income.... A declining share of young families are owner occupiers... and households’ spending on housing has increased” (OECD 2018, 33). The dire situation has led experts to suggest that housing supply must grow rapidly, and that small residential project approvals need to be streamlined (Ibid., 34). While the government and international experts devised policy tools to increase the housing supply, in the summer of 2011 the masses flocked the streets, in what became one of the largest wave of social protests in Israeli history, and one of the largest in the world when measured on a per capita basis (Schipper 2015).

As the housing crisis destabilized the power of central government, it sparked several planning reforms designed to expedite planning and to increase the value increments of future development. One of these was the *Sheves-Kahlon* law, according to which local planning commissions must approve planning applications designed to increase the number of housing units per plot (Bosso 2015a). Other reforms soon followed, each trying to improve the housing situation by encouraging market-oriented solutions. These reforms enabled developers to capture value surplus and to mobilize it in order to supply public goods such as affordable housing.

The top-down governance system in Israel provides opportunities to experiment with national value capture mechanisms. Central government creates the legislative frameworks for many value capture tools available to Israeli planners. This legislation, while created at the national level, is subject to shifts in the economy and to local crises (Charney 2017). National level interests therefore play a crucial role in devising new measures as well as updating existing ones.

Free Market Pressures

Attempted solutions to the housing crisis have come in the context of the increasing neo-liberalization of Israeli policy. Much has been written about the Israeli neoliberal agenda which has extended to the country’s approach to planning (Schipper 2016; Eshel and Hananel 2018).

The underlying assumption is that by harnessing the market to solve challenges, government can become more efficient and save public money, and that spending will be done by private bodies or by public-private partnership with minimum costs incurred by the taxpayers.

Figure 8: Rothschild Boulevard, December 2010. The smaller building (on the left) was preserved by the owner of the compound who received extra FAR to add to the adjacent office building (on the right).



Source: Nir Mualam.

For example, district planning agencies, which include ministerial representatives, often pass statutory plans that secure certain public goods by linking those goods to planning bonuses. For example, when seeking to protect historic buildings, planning agencies have frequently relied on transfer of development rights or on upzoning in order to protect heritage properties. These mechanisms utilize market forces; by granting private owners additional floorspace (bonus floor area ratio—FAR), development becomes more lucrative and their profit increases. In return, government compels developers to carry out preservation works in their plot or in its vicinity (Figure 8). This practice has been criticized for being random, not very transparent, and for hollowing out state apparatuses (Margalit 2014).

Strains on Local Government

Value capture is used by municipalities as well as by the national government in order to help cities to cope with increasing challenges in a highly competitive and resource- scarce environment. Local governments in Israel are increasingly involved in the lives and well-being of their residents while central government steps back. At the same time, central government refrains from supporting local governments as much as it did in the past. For these reasons, local taxes are too low to finance the infrastructure needed by cities (OECD 2018). To make things worse, the hierarchical government system in Israel means that localities are institutionally (and

constitutionally) restricted and cannot raise taxes or introduce new ones by themselves.¹ Instead, they are dependent on the central government (Elazar 2016) who has made sharp cuts in government spending. As a result, local governments must come up with innovative land policy and planning instruments in order to save money, create revenue, and secure public amenities and infrastructure (Lasri and Shwartz 2012). For example, Israeli cities experiment with market-driven policies for urban renewal that do not entail significant public investment. These policies rely on market agents to demolish entire neighborhoods and build them anew, by giving developers significant incentives in the form of bonus FAR (Geva and Rosen 2018). Another example is a range of developer agreements, signed between city administrations and Israeli developers who commit to supply public services (Alterman 1990). Likewise, city governments may capture value directly while completing public tasks themselves; they may approve statutory plans in which developers commit to hand over a portion of their land in exchange for additional building rights on their plot. In this way, they avoid conflict, expropriation, and the need to compensate for taking property.

Decentralization

Value capture tools in Israel also go hand in hand with institutional processes that affect planning as a whole. Specifically, decentralization of planning powers is a significant process that has enabled local planning authorities in Israel to regulate their affairs more independently (Beeri and Razin 2015). A corollary is the strengthening of local authorities which creates room for experimentation in a range of planning tools (Eshel and Hananel 2018). As more planning powers are handed to Israeli cities, they become free to approve local statutory plans that capture more value. For example, some cities are now empowered to grant landowners additional rights to build in exchange for certain goods which are guaranteed by the owner, such as the protection of historic buildings or the development of parks (Section 62A (a1)(12) in the Israeli Planning and Building Act). These provisions have been introduced in the 2014 Israeli planning reform which was designed to create more room for mayors to manage their city. In similar vein, this reform also empowered local planning agencies to upzone land on the condition that the landowner would build affordable housing. Value is therefore created by a statutory plan, captured by a private owner, and then mobilized to create inclusionary housing options for sale (Section 62A (a1)(2) in the Israeli Planning and Building Act).

Autonomous Global Cities

The popularity of value capture instruments can also be attributed to global conditions. Global processes have elevated certain cities to the level of ‘global cities’ or ‘world cities’: economic, political, and cultural hubs having international and global influence (Short 2006). Tel Aviv, as a prime example, has become a local and international powerhouse with global ties and networks (Kipnis 2004). As a global city, Tel Aviv attracts foreign capital, tourism, and know-how. Its

¹ Israel has no formal constitution, but a set of ‘Basic Laws’ that determine a range of constitutional provisions including certain human rights and institutional arrangements. Unlike in the United States, where home rule may apply through State constitutions, the Israeli Basic Laws do not touch directly on the relations between national and local governments. However, they do determine that taxes can only be raised by central government through the passing of national laws. The latter may enable local governments to introduce local taxes, but these are subject to national control and supervision.

global standing attracts wealth, and with it comes greater opportunities for the city to create its own agenda, and to challenge the state (Alfasi and Fenster 2005). These conditions also facilitate fiscal and other forms of autonomy which, in turn, brings opportunities to leverage knowledge and abilities in order to introduce a range of innovative policies that capture value and perpetuate such autonomy from the central government.

It is possible to point out a range of value capture tools that have been introduced and developed in Tel Aviv. The city has been at the forefront of the introduction of measures that enable direct or indirect value capture. Specifically, it has battled developers in an attempt to increase betterment levies in its jurisdiction (Darel 2019); and it has sought ways to insert affordable housing into the built fabric. These initiatives often go hand in hand with macro tools that enable value capture, such as land readjustment (re-parceling) plans (Mualam 2017). In addition, Tel Aviv has compiled local plans that tie developer obligations to the supply of public goods and services and it has also experimented with a range of upzoning strategies that allow landowners to capture value increments and use them to finance a variety of public services (Mualam, Salinger, and Max 2019).

The Main Tenets of TAMA 38

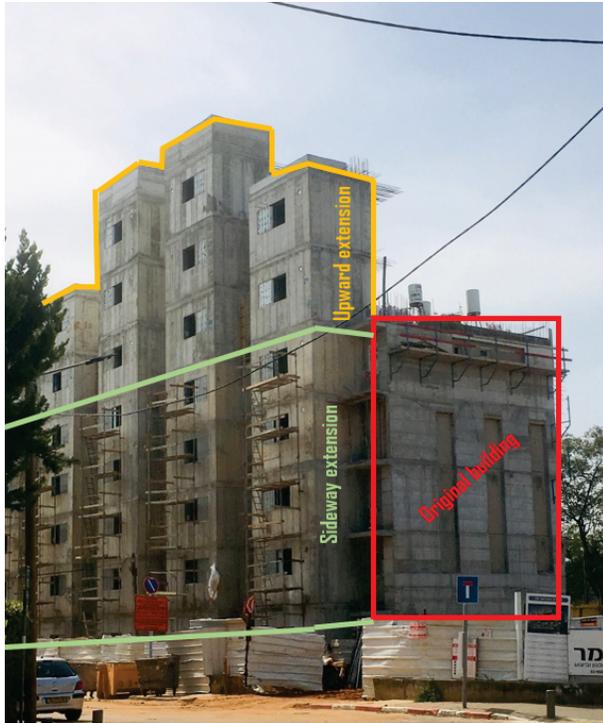
This section introduces the policy of TAMA 38 by analyzing the major rules associated with its application. TAMA 38 was introduced to deal with aging buildings, those constructed before 1980, which are unable to withstand earthquakes due to outdated building standards.

TAMA 38 was enacted as a national-level policy to upzone an entire country. Accordingly, every building constructed before 1980 receives additional building rights. These additional rights are granted to every building owner. However, the provision of extra rights is not automatic, and depends on the discretion of the local planning authority. Thus, the locality can decide to curb development in cases where added building rights would harm the built fabric or create unwanted externalities.

When a TAMA 38 project, usually done on a building-by-building basis, is approved by the Local (Municipal) Planning Authority, a developer is obligated to renovate a building at their own expense and to make the building earthquake-ready by constructing extra stilts and concrete reinforcements in strategic locations in and around the building. On those extra stilts, the developer can then construct new apartments on additional floors, using bonus FAR. In addition, the developer finances exterior renovations, a face-lift to the existing building, and adds additional amenities such as new elevators. In exchange for covering all costs of construction, reinforcement and renovations, and the necessary fees and taxes, the contractor has the right to build additional floors and to sell the apartments built on these floors. The existing apartment owners (who allow a developer to add floor-space on top of their building) get a modernized and *earthquake-safe* building, and sometimes one room or more are added to their apartment. At least one room, also known as ‘*mamad*,’ is made from reinforced cement concrete, in a manner that makes it earthquake-ready and also able to withstand other forms of damage. In some cases, porches, storage rooms, parking spaces and elevators may be added on as well, thus enhancing

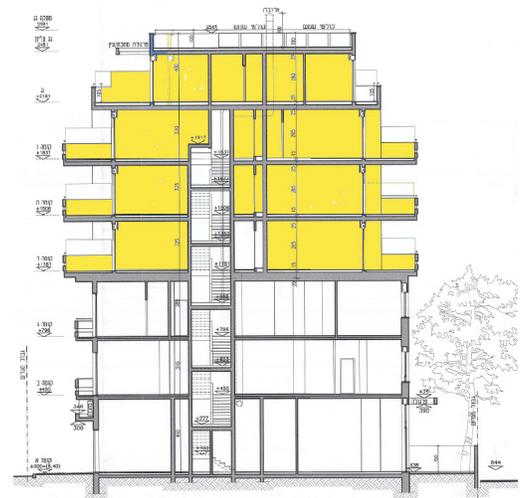
the building's value. This type of development is meant to preserve the existing built fabric, because no more than three or four extra floors are usually permitted by law.

Figure 9: A 'TAMA Track 1' Project in Debora Hanevia St. in Tel Aviv: an existing building becomes earthquake ready, while the developer adds floors on top. Photograph shows new rooms that expand the existing building sideways and upwards.



Source: Nir Mualam, February 2019.

Figure 10: Architectural Rendering of 3.5 Additional Floors in Dizengoff 216 St. in Tel Aviv: a residential building situated in the 'White City' conservation area, where additional floors are to be added using building rights granted by TAMA 38 (on the condition that the building will be reinforced against earthquakes).

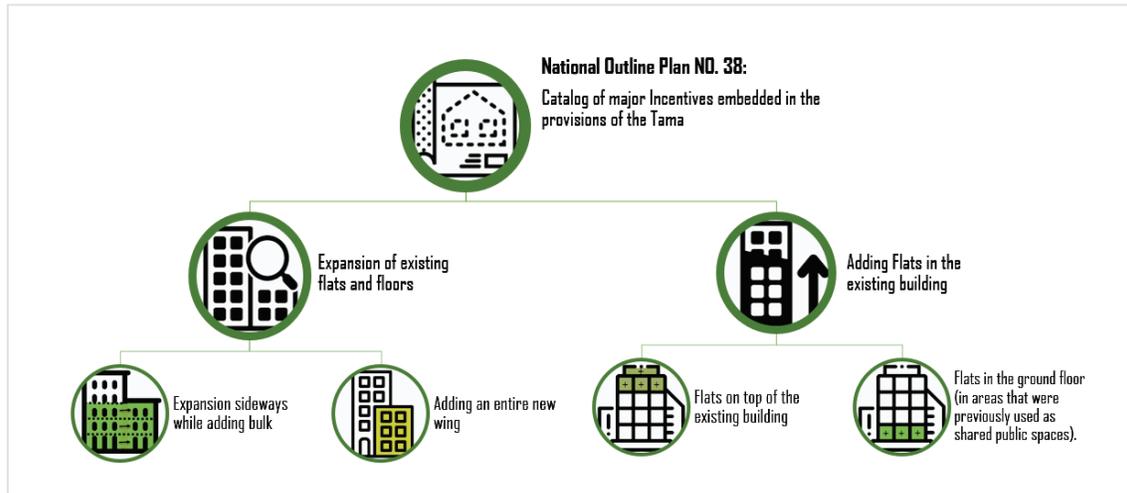


Source: City Permits Archive and authors' adaptation.

Overall, TAMA 38 is a new way to convert market momentum into fiscal capacity. As such, this policy is an innovative tool to finance certain public goods. Like other models around the globe, TAMA 38 enables the government to divert accumulated value surplus toward certain developmental benefits.

Summing up, TAMA can be initialized by adding floorspace, adding housing units (flats), and by enlarging the existing building. This track is also known as "TAMA 1" or "TAMA Track No. 1" (see Figures 9-10). The second track, however, involves a different arrangement. "TAMA 2" (also known as TAMA Track No. 2), involves a total demolition of the original structure, followed by new construction featuring additional floors. This second route entails additional costs and therefore mandates more value uplift for its execution.

Figure 11: Major Incentives Embedded in the Provisions of TAMA 38



Source: Authors.

Both tracks of redevelopment rely on extra building rights granted by the TAMA policy. These building rights can be used to build extra floors (including new flats) and/or to enlarge the building, thereby adding mass and bulk, while expanding existing apartments. When adding flats, the developer can utilize the ground floor or add new floors. When enlarging the building, the developer can add another wing, or simply enlarge the existing building sideways. Figure 11 summarizes the key incentives designed to assist in capturing value in TAMA 38 projects.

The planning application must receive approval by the owners of the parcel on which the building stands. Since most parcels designated for TAMA 38 include apartment buildings, a certain percentage of flat owners must sign a contract before the developer applies for a planning permit. If 66 percent (or 80 percent in the case of demolition) do not agree, the sale of co-owned building rights (afforded by the TAMA) cannot go forward and the planning application is refused by the local planning authority.

Key Stakeholders Involved in TAMA 38 Development

In both tracks of TAMA 38, the captured value allows the developer, the existing owners, and the municipal authorities to benefit from the project. On the face of it, the new TAMA policy is a ‘win-win’ tool. The government gains as well, as it has an interest in advancing seismic safety. In fact, the developer becomes the long arm of government by working towards profit, but also by securing the public good of an earthquake-safe building.

Table 3: Interest of Different Groups/Stakeholders

Central Government	Cities / Municipal Government	Developers	Pre-existing owners
Improving national resilience, protecting citizens, strategic preparedness in the face of the threat of an earthquake.	Improving local resilience, ensuring the safety of citizens, promoting urban regeneration and renewal.	Profiting by selling new flats.	Making the existing building earthquake-ready, face-lift, additional floor-space for owners, providing better amenities such as new elevators, and securing increase in property value.

Source: Authors.

Each stakeholder group has its own interests (see Table 3). These interests may or may not converge. It is in the interest of both developers and owners to produce units of as high value as possible. In addition, both developers and owners benefit from speeding up the planning process. Yet, developers and owners both aspire to maximize their own profit through TAMA 38 development. While individual apartment owners seek to enlarge their apartment, add maximum floorspace, and improve the overall appearance and resilience of the building, developers aspire to sell more expensive apartments and reduce their costs. Thus, the total profit of developers is closely tied to their expenses and in particular to those associated with compensating existing landowners. If developers buy owners' building rights at a high cost, their margin of profit is reduced; if developers promise flat owners greater boons (in cash or kind) or if they agree to build bigger flats and to secure more amenities to pre-existing owners, their profit is reduced as well. That is to say that the interests of property owners and developers are not identical.

Likewise, the interests of central government and local government may converge or compete. On one hand securing urban resilience is both a national and a local interest. However, in the context of TAMA 38 local interests are more varied and include securing local finances, matching local infrastructure with the number of residents, and providing broader community benefits such as urban renewal. These interests may not go hand in hand with local or national resilience goals.

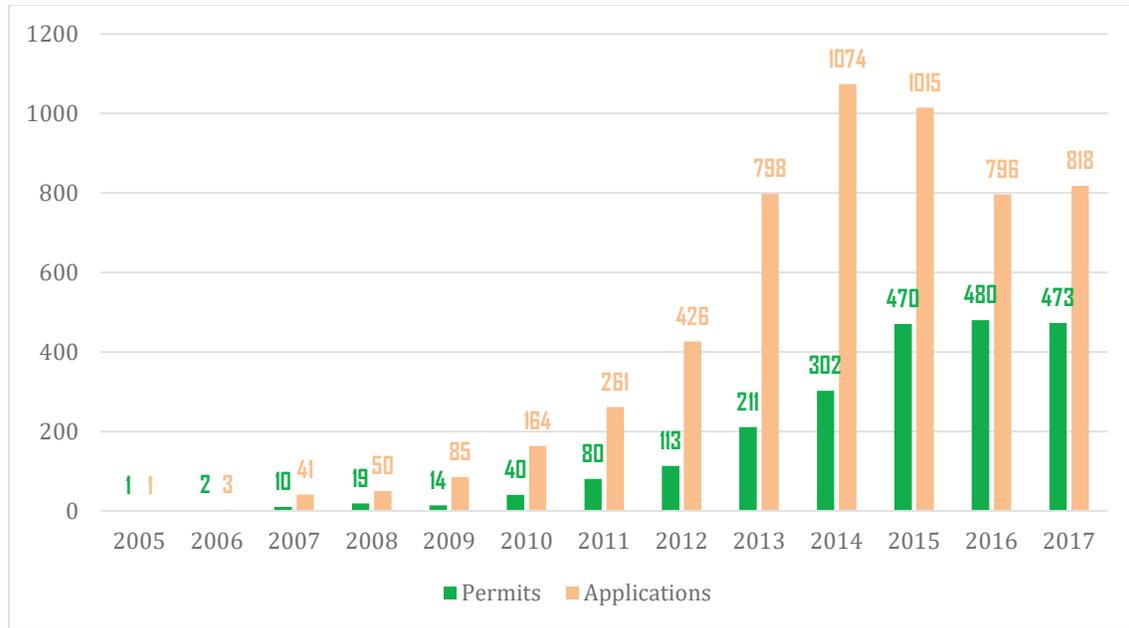
The economic analysis chapter presents additional data in this regard, mapping and analyzing the relationship between different stakeholders.

Implementation of TAMA 38

While it is possible for all stakeholders to benefit from TAMA 38, following its introduction in 2005, very few projects were actually implemented relative to the number of buildings in need of renovations (see Figure 12). It took a while before owners and developers realized the promise of TAMA 38. Gradually, more projects got off the ground, but flaws in the original version of the legislation prevented its initial success (Ben Gal 2010). For example, at first it did not enable

more than one floor to be added on top of the pre-existing building, nor did it include the option for the second total demolition and rebuilding track.

Figure 12: Planning Permits and Applications for TAMA-38 Projects, sorted by year.

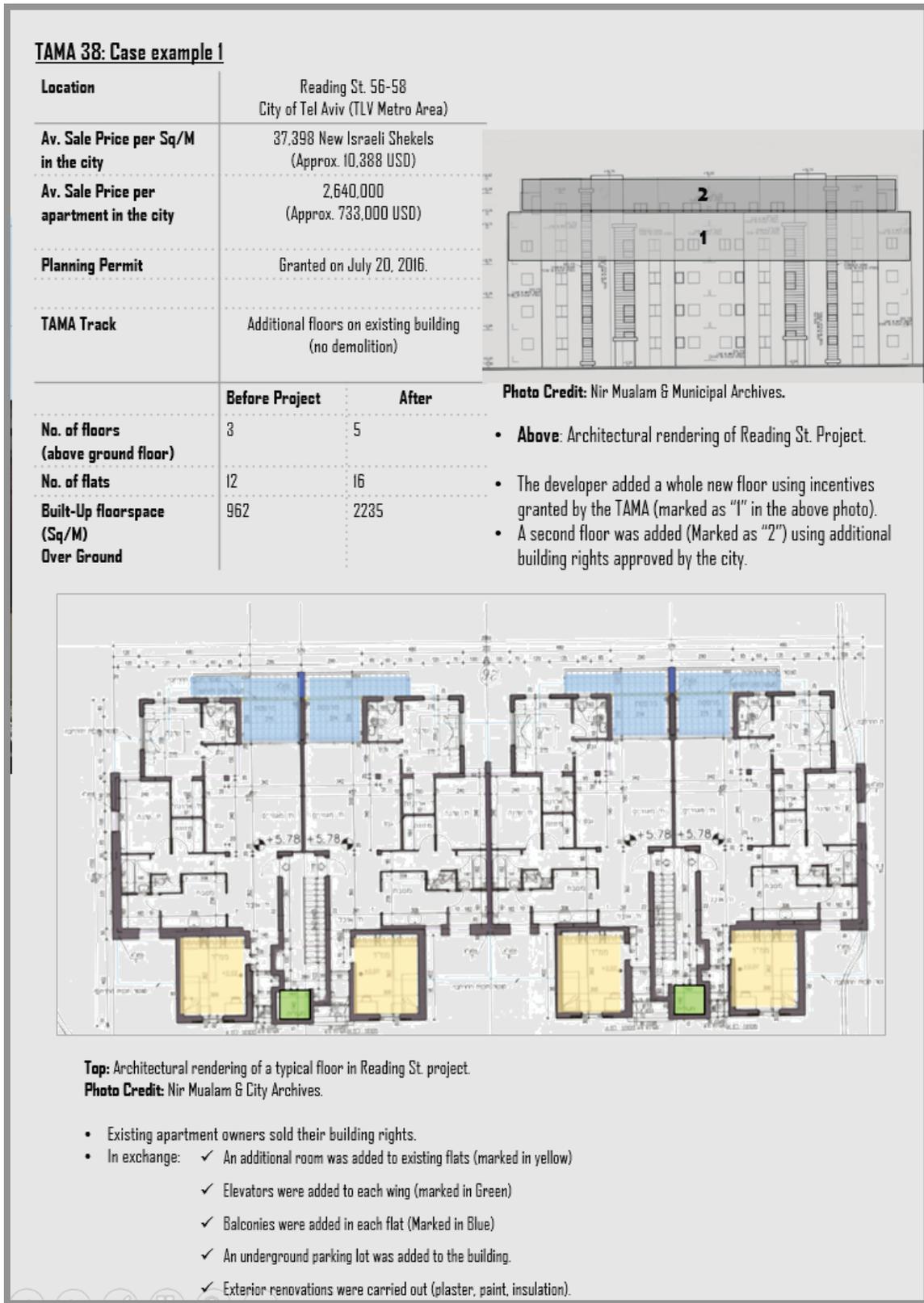


Source: The Urban Renewal Authority (2018).

A search we conducted in municipal archives reveals the insides of the planning application process and how TAMA 38 implementation actually works. Figures 13a-13c depict a TAMA project in the Northern Quarters neighborhood of the Tel Aviv, a high-price area within a high-price city. The Northern Quarters are near the University of Tel Aviv and to many amenities and urban services. The Quarters are a magnet for young couples and relatively well-off families. Part of the building stock, however, was constructed hastily in the 1950s and the 1960s. This includes apartment buildings constructed by the government to house immigrants and a rapidly growing population. Those buildings had been built before the Israeli Building Standard for earthquake preparedness was introduced. Hence, a large portion of the building stock in the Northern Quarters are in need of structural reinforcement against earthquakes. The aging and deteriorating condition of certain buildings can be easily seen in figure 13b, which depicts a residential building in Reading Street, Tel Aviv. The developer added 2 floors on top of the existing building, together with 4 new flats. There were 12 flat owners before the project began. Those owners sold their share of extra building rights to a developer who also expanded their flats by adding a balcony and one additional room in each apartment.

The overall outcome of the renovations of Reading St. 56-58 can be viewed in figures 13b-13c. It is evident that the bulk and height of the old building was changed completely. The existing flat owners benefited from an upgraded and modernized building; new elevators, facelift, enlarged flats, and structurally reinforced buildings which can better withstand future quakes. A value analysis and appraisal we conducted suggest that existing flat owners also enjoyed a significant increase in the value of their apartments (see economic analysis of stakeholders).

Figure 13a: An Overview of the Reading Street Project



Source: Authors and Tel Aviv Municipality archives

Figure 13b: Case Example 1: Reading Street Project: Before and After Construction

TAMA 38: Case example 1 (continued)

Location	Reading St. 56-58 City of Tel Aviv (TLV Metro Area)
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Top: Reading st. (Northern façade) before renovations.

Photo Credit: Nir Mualam (August 2016).



Top: Reading St. following renovations.

Photo Credit: Nir Mualam (February 2019).

Source: Authors.

Figure 13c: Reading Street Project: Before and After Construction

TAMA 38: Case example 1 (continued)

Location	Reading St. 56-58 City of Tel Aviv (TLV Metro Area)
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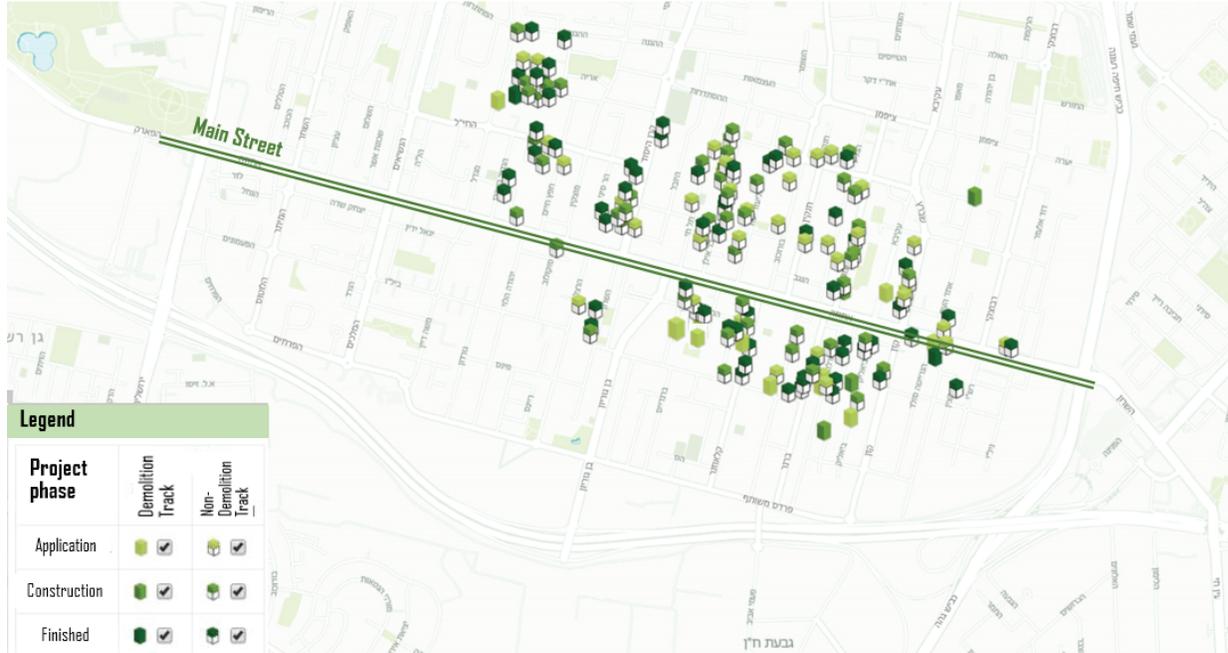
Top: Reading st. (Northern façade) before renovations.
Photo Credit: Nir Mualam (August 2016).



Top: Reading St. following renovations.
Photo Credit: Nir Mualam (February 2019).

Source: Authors.

Figure 14: TAMA Projects in the City Center of Ra'anana as of 2018



Source: Authors' adaptation from <https://www.madlan.co.il/>

The implementation of the TAMA policy is not confined to metropolitan areas such as Tel Aviv. In fact, in recent years towns situated in Tel Aviv's outskirts, such as Ra'anana and Kfar Saba, have also experimented with TAMA development. These towns have benefited from the spread of TAMA projects to these areas, owing to the variety of legislative amendments which made it profitable for developers to expand their activity. The city of Ra'anana has been especially receptive and developer friendly. It created local guidelines that increased transparency and certainty in the TAMA 38 approval process. This led to the city center witnessing a sharp increase in TAMA development. The main street of Ra'anana (Ahuza St.) and its surrounding area have drawn entrepreneurial activity (see Figure 14). The deputy mayor was cited saying "the TAMA is a great lever for urban renewal" (Smolsky 2014). This is because it allows local planning commissions to promote these projects without being dependent on other planning agencies. The city utilizes TAMA incentives to allow up to 7.5 floors in the city center, and a typical 3 story building would often be allowed to add from 2.5 to 3.5 floors to the existing structure. It is worth noting that both Ra'anana and Kfar Saba are wealthier cities which do not suffer from urban blight, and that both are in the center of the country, in areas at lower risk of catastrophic damage from earthquakes.

Figure 15 illustrates one of the many initiatives to pursue TAMA development around the city center of Ra'anana.

Figure 15: Overview of a TAMA Project in Bar Ilan Street, City of Ra'anana

TAMA 38: Case example 2

Location	Bar Ilan St. 15 City of Ra'anana (Central District)	
Av. Sale Price per Sq/M in the city	23,043 New Israeli Shekels (Approx. 6400 USD)	
Av. Sale Price per apartment in the city	2,402,000 New Israeli Shekels (Approx. 667,000 USD)	
Planning Permit	Granted on July 20, 2016.	
TAMA Track	Additional floors on existing building (no demolition)	
	Before Project	After
No. of floors (above ground floor)	3	5.5
No. of flats	15	25
Built-Up floorspace (Sq/M) Over Ground	1701	3796



Photo Credit: Nir Mualam (June 2018).

- Bar Ilan 15 is the building in the middle of the photo.
- The adjacent building on the left has remained in its original state (3 floors) and did not undergo renovations.
- The building adjacent to Bar Ilan 15 (right hand side) underwent similar construction of 3 additional floors.



Top: Architectural rendering of Bar Ilan St. 15, Ra'anana
Photo Credit: Nir Mualam & City Archives.
 Additional floors are highlighted in yellow.

Source: City Archives of Ra'anana and authors' analysis.

Policy and Legislative Adaptations

The national Israeli policy sought ways to create urban resilience and mitigate future disasters. Soon after its initial implementation, however, it became clear that the rapid pace of legislation, resulted in a ‘half-baked’ policy instrument: the TAMA 38 was not getting implemented because co-owners in an apartment building could easily prevent development by refusing to cooperate. Likewise, developers had to pay local as well as national taxes, which made it difficult for them to create financially feasible projects. Taxation and lack of cooperation threatened to halt the implementation of TAMA 38.

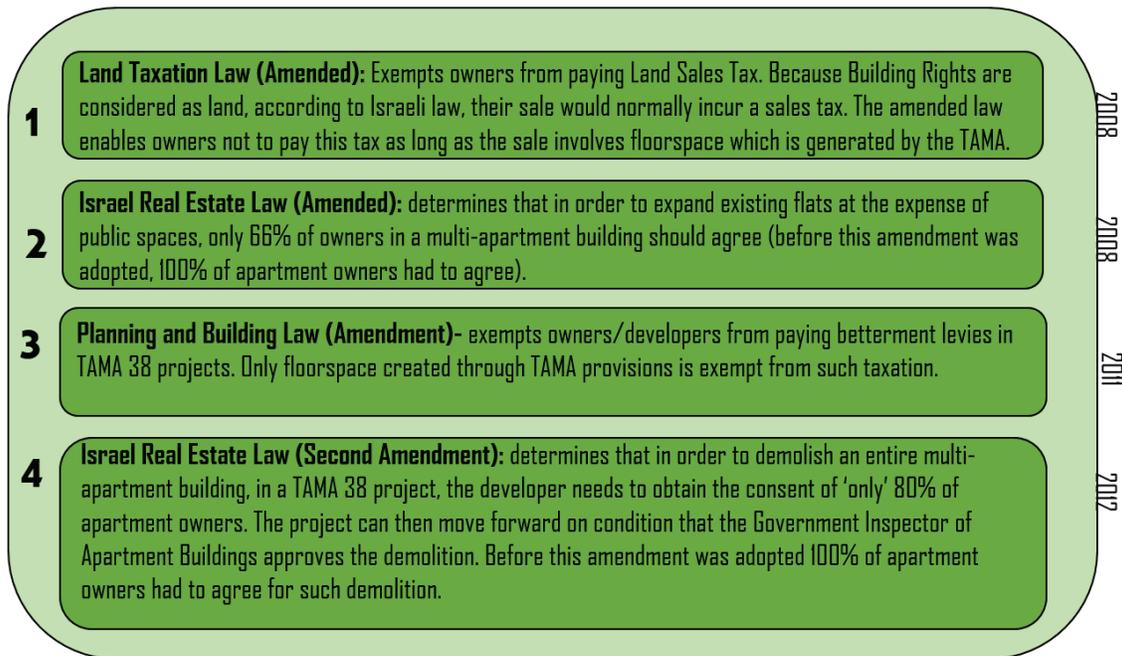
The government learned from its mistakes, and incrementally adjusted the legislation in order to fix these problems and to streamline the process of issuing building permits. The government sought ways to facilitate value capture and to make projects more profitable and less risky to developers. In addition, the government sought ways to reduce NIMBY and objections by flat owners.

Changes were needed in various tax laws and pieces of betterment legislation for more TAMA 38 projects to become economically feasible (Almog 2016). For instance, property laws needed a revision to prevent a situation in which an entire project could be shelved due to the objections of even one apartment owner in a building. To make projects more profitable for developers, municipalities were made to forfeit a portion of their betterment levy². In other words, at times, direct local value capture (in the form of betterment levies payable to local government) was denied by central government to enable developers to capture enough value to make TAMA 38 projects feasible.

We have listed the main amendments in Israeli legislation, many of which were designed to speed up TAMA 38 approvals (Figure 16). As changes were put in place, gradually more projects began to be implemented (Figure 12).

² Developers and owners are exempt from paying betterment levies in TAMA 38 development as long as they add no more than 2.5 floors to the existing building.

Figure 16: Legislative Amendments Designed to Speed Up TAMA 38 Projects

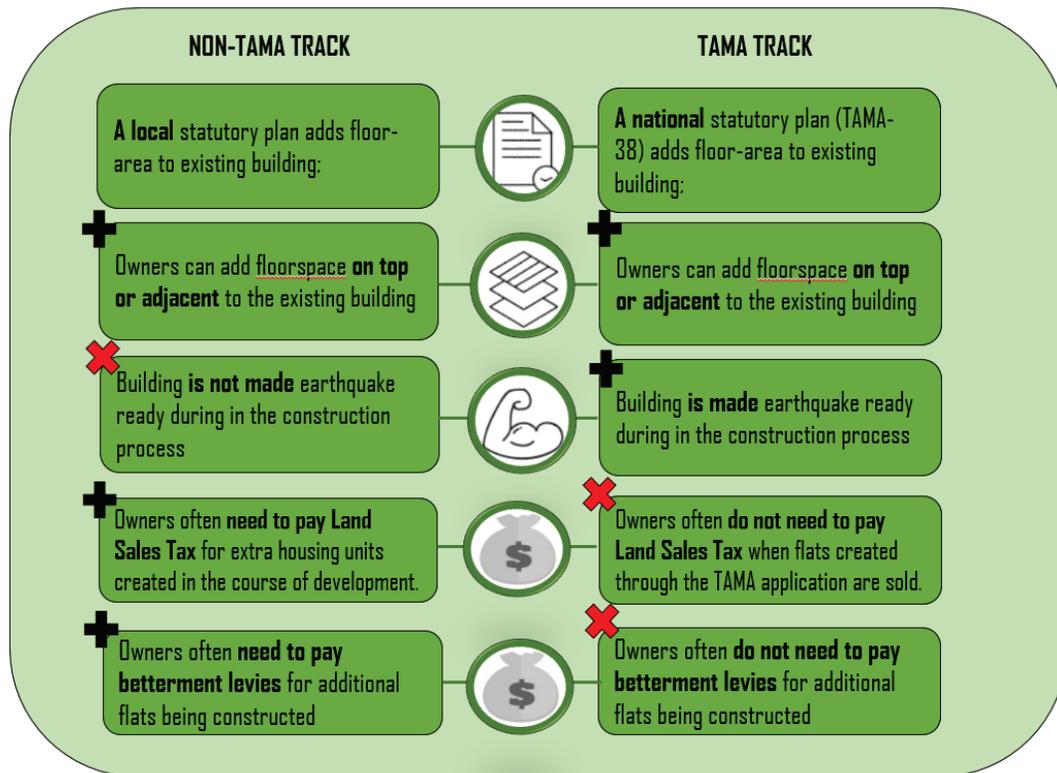


Source: Authors.

The new configurations of the legislation show that the government was fully invested in making it easier to implement the TAMA policy and increase its utilization by the market. These amendments, however, did not pass without public scrutiny. Some local municipalities were outraged that they would be denied the ability to charge betterment levies (Darel 2019). Owners of flats, who objected to certain projects, saw their veto powers reduced. This is because by 2012, a TAMA 38 project could move forward even when apartment owners in the building in question were not unanimous in their support of the project.

These modifications represent learning in the face of failure. Government authorities realized that by reducing taxation, they reduced financial risks to developers. One amendment exempts developers from paying betterment levies in these projects. The exemption applies only to floorspace that originates in building rights granted by the National Plan. In other words, as long as a developer relies on the incentives of the TAMA alone, that developer will not have to pay the city significant sums as betterment levies. However, a developer relying on building rights that originate in other (usually local level) plans, *will* pay a betterment levy. Figure 17 compares the two scenarios.

Figure 17: Comparison of TAMA Policy with Other Local Planning Track That Enable Extra Floor-Space



Source: Authors.

In the non-TAMA track, a developer may enjoy incentive zoning, and does not need to reinforce the building against earthquakes nor carry out additional works for the benefit of all flat owners. However, the developer does need to pay the city betterment levies, assuming there was an increase in the value of her property due to statutory planning interventions. Following, the value captured by the public in the form of betterment levies allows the city to continue its investment in surrounding neighborhood. On the other hand, when the TAMA track is pursued, the legislature has prescribed that the broader public benefits (in the form of renewal and earthquake preparedness) justify an exemption from local betterment taxes. In fact, the value captured by the owners/developers is translated on the ground to public benefits which, according to the Israeli government, create enough value for the public. According to this line of thought, burdening a developer with additional fees and taxes can make the entire development fiscally unfeasible, thereby undermining the primary goal of achieving urban resilience. What is interesting here is that *indirect* value capture supersedes *direct* public value capture. In other words, value capture through TAMA 38 has trumped value capture through betterment levies. Moreover, in the name of securing national goals, central government has leapfrogged over local government concerns and denied cities betterment payments that help in financing goods and services, including the ongoing planning activities of planning commissions. As a result, the government’s decision to exempt owners and developers from paying betterment actually places the burden of financing local government services on municipal taxpayers rather than the direct beneficiaries.

A similar rule applies to the Land Sales Tax, which is payable to central government. When a flat, a housing estate, or a piece of land is sold, the seller would normally incur a Land Sales Tax. The TAMA policy exempts owners from paying this tax, while in the non-TAMA track owners *do* need to pay it. In this case, the government forfeits payment it receives directly from owners in order to expedite and encourage such development.

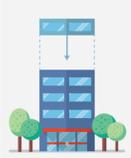
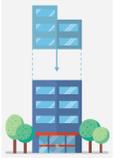
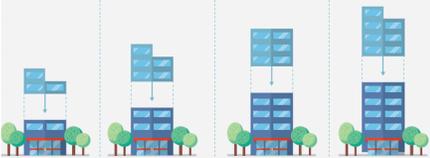
The government has reviewed the TAMA legislation itself in an attempt to streamline its application. Figure 18 illustrates the gradual shift in policy.

Because TAMA 38 relies on market actors, there are two conditions for its successful implementation. First, land values must be high enough, and second, incentives (in the form of additional building rights) must be sufficient. High land values and sufficient incentives allow developers to utilize TAMA to build extra flats in an existing building and sell those flats for a reasonable return. The larger their margin of profit, the more likely the project will be realized. Consequently, the government gradually reviewed and eventually revised the national plan to ensure sufficient profits for developers (Petersburg 2016; Sheffer 2013) and significant amendments to the plan were approved by the Cabinet. These amendments were designed to increase the economic feasibility of the plan, and therefore to ensure that value capture extends beyond the high-priced areas to more peripheral areas in greater need of seismic retrofitting (The Parliament of Israel 2011).

The changes in the policy enabled more floors to be built, either by allowing an additional floor or 1.5 floors in the original TAMA track, or through the introduction of the second TAMA track, which allows developers to completely demolish the building and build anew. The second track was conceived in order to allow demolitions when the structural condition of the existing building is too poor to add floors. By granting the same incentives, a developer can demolish an older building and create a new building which also adds even more than the original TAMA 38 to the sale value of apartments. By adding even more building rights as incentives, the government signaled to developers that they could create enough value to make the project profitable.

It is worth noting that the incentives listed in figure 18 in the form of floor bonuses are subject to local discretion. This means that the city can approve *up to* 3.5 floors, depending on the size of the existing building, the configuration of the plot, and other considerations.

Figure 18: The Evolution of a National Value Capture Policy: The Case of TAMA 38

	2005	2007	2010	2013	2016
Version	Original Tama 38	Tama 38-1 (Amendment No. 1)- Clarified several legal issues	Tama 38-2 (Amendment No. 2)- Allows TAMA incentives when a building is totally demolished & rebuilt.	Tama 38-3 (Amendment No. 3)- Enabled developers to build more floors.	Tama 38-3a (Amendment No. 4). Fine-tuned the number of floors to be added on each building.
No. of floors as incentives	Allows owners \ developers to add <u>one floor</u> on the pre-existing structure. New apartments can be added in this floor to be sold by the developer. The sale is supposed to cover construction costs and ensure profit to the developer.		Extends TAMA incentives by allowing the addition of <u>2.5 floors</u> on top of the existing structure.		Incentives depend on the height of the pre-existing building, in particular: -- 1 story buildings can now add up to 1.5 extra floors. -- 2 story buildings can now add up to 2.5 extra floors. -- 3 story buildings can now add up to 3 extra floors. -- Buildings of 4 floors and up can add up to 3.5 extra floors. 
Ability to add floors when demolishing the old building	No.	No.	Yes. The 2010 version of the TAMA and subsequent amendments, allow owners \ developers to enjoy the TAMA's building rights \ FAR by demolishing the old building and constructing a new bigger one instead. In other words, additional floors can be added on top of the existing (old) building, or when older buildings are demolished and built anew.		

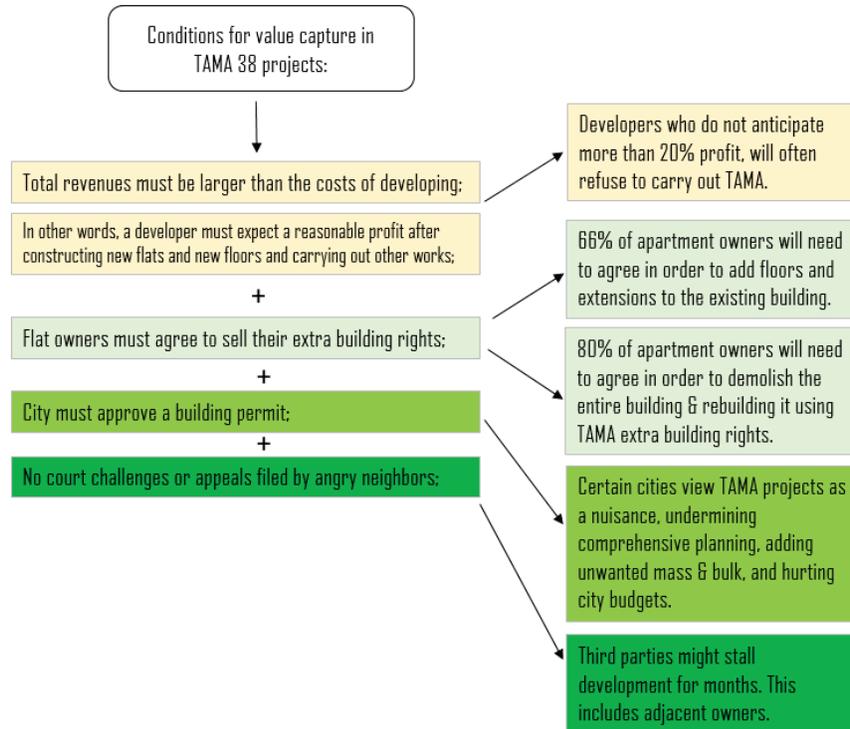
Source: Margalit and Mualam (2019).

Hurdles in the TAMA 38 Approval Process

While these amendments have spurred an uptick in TAMA 38 projects (see Figure 12), the TAMA 38 process is still difficult and there are several potential points where things can go wrong. Even after the TAMA was amended and ancillary changes in the legislation were made by the government, TAMA projects are dependent on local planning commissions' approvals.

Figure 19 depicts some of the potential hurdles developers and apartment owners face in carrying out a TAMA 38 project. The diagram shows how in order for a developer to start building in accordance with TAMA 38, quite a few conditions need to be satisfied. First, the calculations of cost and benefit must generate at least 15–18 percent profit to a developer. Although some developers argue that a 40 percent profit is needed to pursue a TAMA 38 project, in effect, about 18 percent of profit suffices.

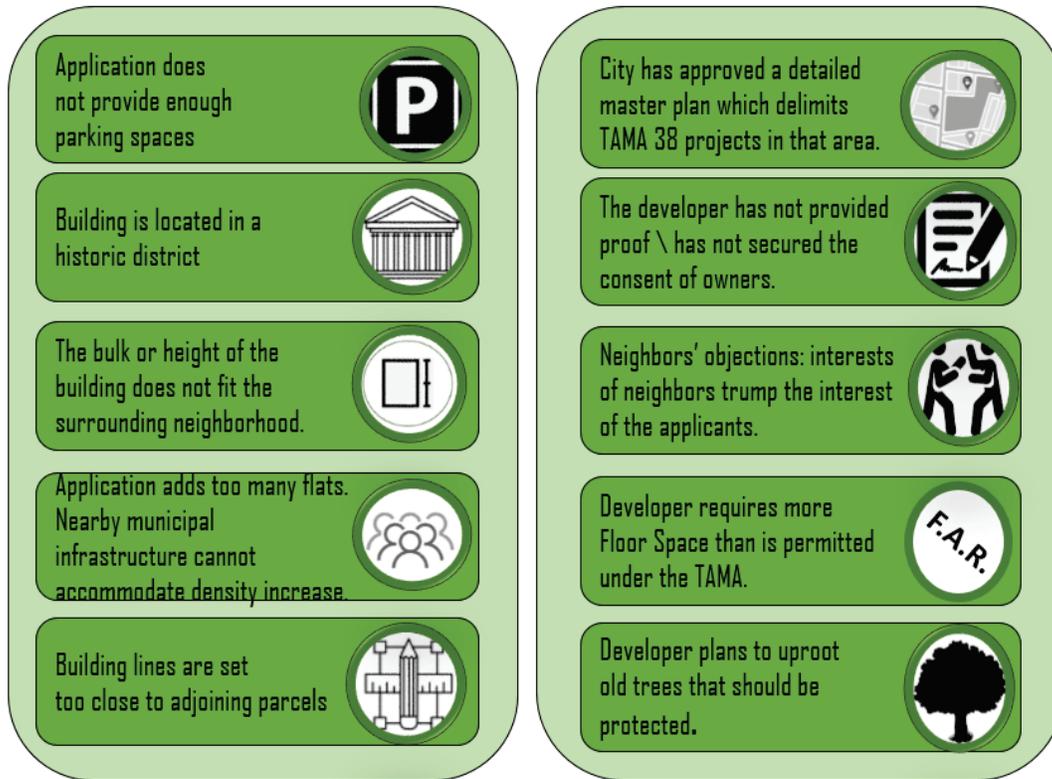
Figure 19: The Road to Receiving a Planning Permit in TAMA 38 Projects



Source: Authors.

If there is sufficient profit for a developer to pursue a project and submit it to the authorities, the city must approve the planning application. This may sound like a purely bureaucratic step, but it has proven to be quite challenging. As some cities want to prevent the implementation of TAMA 38, they may look for ways to deny a permit, even if it is technically required ‘as of right.’ Some cities regard the TAMA as an abomination, as it allows developers to build without regard to their local plans. As a result, cities may refuse a building permit for TAMA 38. The grounds for refusal are many. A brief survey of planning appeals and local government decisions illustrate an array of reasons, depicted in Figure 20. For example, cities frequently deny a permit due to architectural reasons, arguing that the application proposes a building that does not fit its surroundings.

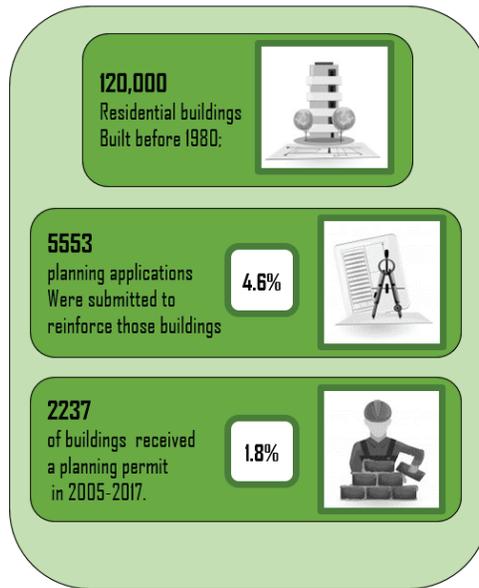
Figure 20: Common Reasons Given by Local Planning Agencies for Denying a TAMA 38 Permit or for Requiring Changes in a Submitted Application



Source: Authors based on a sample of decisions, *see* Appendix E.

Although local planning authorities have a certain level of discretion in granting permission for developers to pursue TAMA 38 projects, courts have tended to limit their powers arguing that the TAMA policy furthers crucial national interests to which localities should defer. Indeed, the supervision by courts and appeal tribunals has proven to be quite effective in reversing arbitrary or unsubstantiated decisions of local planning agencies. These legal decisions have made it clear that TAMA 38 projects should proceed uninterrupted unless other important interests are at stake. Even when local planning agencies approve a building permit, third parties, such as neighbors and flat owners in the building in question who do not agree for a sale can file an appeal to challenge the decision. This may stall development for months and impede implementation.

Figure 21: Share of Building Permits and Planning Applications for TAMA 38 Projects Compared with the Number of Buildings in Need for Structural Reinforcement



Source: Authors.

As the process of granting a permit is slowed down by the abovementioned factors, despite the impressive rise in the number of permits and applications for TAMA 38 development, the pace of TAMA 38 development has still not led to many completed TAMA 38 projects, leaving many buildings still seismically unsafe. There are approximately 120,000 residential buildings in need of structural reinforcement. Applications submitted between 2005 and 2017 amount to only 4.6 percent of that housing stock (Figure 21).

TAMA 38 and Value Capture

TAMA 38 as Value Capture—How Does It Fit In?

Value capture is a tool to share the risks and rewards of development between developers and the public, billing developers for some of the externalities of this development. There is a wide variety of value capture mechanisms applied across the world (Sheppard, Peel, Ritchie, and Berry 2017, 132–134). But as Huxley (2009, 7) describes, they have four elements, which do not necessarily come sequentially:

1. Value creation: Public investment, government action, or planning/regulation changes that have the potential to increase land values.
2. Value realization: Investment by the private sector that takes advantage of the public investments or regulatory changes.

3. Value capture: Mechanisms that transfer some of the profits earned by the private sector to the public sector.³
4. Value recycling: Investment of profits into the area being developed.

The rationales for value capture are many. Some tools of value capture enable the government to supply a range of public goods, to solve specific problems, or to finance certain activities directly (Altshuler and Gomez-Ibanez 1993). Other tools indirectly provide services and benefits. While several capture mechanisms have been applied irrespective of the impact of development, others have strived to mitigate the external impact of development (Ratcliffe, Stubbs, and Keeping 2009, 156).

Some value capture measures have been extensively applied in Israel. A variety of measures is employed in order to avoid the need to expropriate land or to compensate owners. In cases where public land is required to answer growing demand, planners have relied on value increments that allow government to earmark plots or parts thereof for public utilities such as roads, parks, and schools. The mechanism follows a simple market logic: because an owner has benefitted from added value to her plot of land, the owner should allow government to take a portion of his land for public purposes. Alternatively, owners may be required to perform certain tasks while supplying public services. For instance, land readjustment has been a key measure to capture value while dedicating land for public use. Readjustment allows planning commissions to upzone private land (thereby creating value increments), while taking part of the same land on which infrastructure and public services can be built. The rationale being that public land is necessary to offset the externalities created by private development and to prevent free riding. This way, land does not need to be expropriated and the local government does not need to pay compensation. Given that the right to property is enshrined in Israeli law, such mechanisms also enable local government to dodge lawsuits against possible diminution in property values as well as claims about unlawful taking of land. The value increment functions here as a shield against future lawsuits; because the dedication of land by an owner is coupled with financial benefits, a takings claim may not be substantiated. This is extremely important in a highly litigious society like Israel, where courts have opened the door wide for taking claims (Alterman 2007), amounting to billions of New Israeli Shekels (NIS).

TAMA 38 is another attempt at value capture. As a fiscal tool to recover some of the profit made by developers or landowners due to public intervention, TAMA 38 thus lies in a long tradition of efforts for the state to balance the needs of the public on one hand, and the desire to encourage economic growth on the other (Huston and Lahbash 2018). Henry George, pointed to as the intellectual grandfather of the thinking behind value capture (Alterman 2012; Feinstein 2012), had little squeamishness about declaring which side of this debate he stood on—for him, private property was theft, and landowners who benefited from increased value accrued to their property through no labor of their own should be forced to return these profits to the public through a single-tax: a tax on land values (George 1935). This is not to say that the call for value capture is made today through an appeal for justice as George would have seen it, in fact there are a wide variety of value capture mechanisms today that vary in both the logistics of their implementation (Havel 2016) and their underlying theoretical justifications (Slegtenhorst 2013).

³ Huxley calls the step-in, which profits are actually captured by public entities, but in this paper we will continue to refer to the combination of all four components that Huxley identifies as value capture.

But how does TAMA 38 relate to the greater pool of value capture mechanisms? Understanding TAMA's relation to these mechanisms and to the idea of value capture is an important step before evaluating its effectiveness in achieving particular policy goals. Putting TAMA 38 in the context of other value capture mechanisms also could allow it to be compared to other value capture tools throughout the world with goals of seismic retrofitting, or similar tools of selling building rights.

First, there is a variety in the underlying motive behind value capture mechanisms. Rachelle Alterman (2012) describes three types of value capture policies that vary according the motive or rationale behind their implementation. Macro value capture instruments, as theorized by Alterman, are those for which value capture is of secondary importance, as they are part of a broader land policy or ideology. For instance, land nationalization may, in practice, perform value capture, but it has its own justifications and implications beyond the capturing of value of developers' profits. Direct value capture instruments are those which follow Henry George's logic and treat captured value as a right which does not need further justification. Alterman divides direct value capture into two types: capture of the unearned increment, where the increased value captured may not be due to any government decision, and capture of betterment, where a specific government decision created the increased value. She further divides this last subtype into development-rights based betterment, in which increased values are due to planning changes, and infrastructure-based betterment, in which increased values are due to the creation or approval of public infrastructure. Alterman's third type of value capture is indirect value capture, in which the revenue or other benefits produced by the value capture tool are the primary stated goal.

There is not a hard line between macro, direct, and indirect value capture, and in fact it may not always be possible to ascertain the justification for a policy tool. That said, TAMA 38 sits comfortably in the category of indirect value capture. It is a form of capture that saves government the need to tax developers directly. As such, it is an indirect and subtle form of capture. Put differently, TAMA 38 is financial instrument that is "less visible to voters than direct taxes or levies" (Alterman 2012). It leverages the government's "authority to regulate land use, and solicit from landowners or developers' money, land or construction services in exchange for an affirmative decision or fast-track processing" (Ibid) of planning applications.

As an indirect form of capture, TAMA 38 was implemented in order to finance the seismic retrofitting of residential buildings, not because of an idea that the developers owe a part of their profits to the public, or to the residents of the building they developed. In fact, when describing the potential factors which the local authorities could take into consideration, an addendum to TAMA 38 proposed that they might take into account economic, planning, and architectural considerations when choosing the amount and type of acceptable FAR additions (Ministry of the Interior 2005). There was no mention that the additions should have a certain value, or that there should be any specific relationship between the benefits produced by the TAMA 38 project and the costs to the developer, or about any moral obligations owed to or from the developer at all.

Value capture mechanisms are also implemented at a variety of levels of government, from local to national. Some common value capture mechanisms, specifically those used to fund transportation infrastructure, work primarily on the local level (Levinson and Istrate 2011). Local

value capture mechanisms can include special property taxes or development fees, or joint development on the one hand, and changes in local plans and building regulations on the other (Litman 2014). Even for value capture mechanisms implemented solely on the local level, other levels of government may be implicated in their position as regulators. For instance, different American states permit different uses of tax increment financing (TIF); some allow just infrastructure projects, some also allow environmental remediation, and some allow for the use of TIF for planning and land acquisition (Zhao et al. 2010). Similarly, Brazil changed its federal laws in 1988 to allow local jurisdictions to capture some of the value of rising land prices, and to charge developers to develop at higher densities than otherwise permitted (Germán and Bernstein 2018). National governments can even mandate the implementation of value capture mechanisms—in Italy, a national law mandates a minimum level of value capture for urban development projects and gives local governments flexibility in determining how to operationalize this mandate (Oppio et al. 2018). In other instances, different levels of government combine efforts to implement value capture mechanisms.

In Australian City Deals, which as of 2019 are still in their planning stages, national, state, and local efforts are combined to encourage economic development while developing the necessary infrastructure, which is meant to act as a catalyst for further economic growth (Commonwealth of Australia 2016). In the Australian case, while the actual value capture mechanisms will occur primarily at the local level, the national government has or will create an Infrastructure and Project Financing Agency to finance the projects, create a plan to collect and disseminate data necessary for the execution of the infrastructure projects, and plan and partially finance major infrastructure projects (in this case, mostly rail projects) which will be part of the value capture program (Commonwealth of Australia 2018).

TAMA 38 also includes both national and local level forces, although without the collaboration present in the Australian case. Given the Israeli planning system's hierarchical nature, planning guidelines set by TAMA 38 supersede local planning regulations. Local level master plans usually dictate, amongst other things, maximum density, minimum amount of public land, and the provision of sufficient services and infrastructure. In response to concerns by local authorities that TAMA 38 did not allow for local control to regulate what could be a wave of development, the National Planning Committee (mostly composed of representatives from the national government) introduced to local planning bodies the ability to approve local plans that adapt TAMA 38 regulations to local conditions. In practice, this seldom happened and TAMA 38 continued to be a top down process rather than one that involved intensive collaboration between different levels of government. TAMA 38 seems to stand out in the degree to which it is a top down fiat and does not encourage the kind of collaboration between levels of government that other value capture mechanisms have enabled.

There is also a wide variety in the value recycling component of value capture mechanisms. Value recycling is the step in which the benefits 'captured' from rising property values get returned to the public. Crucial differences in value capture mechanisms lie in the value recycling element as this is where who benefits from value recycling is determined. There are several ways in which the benefits of value capture programs can be targeted. Many value capture mechanisms, including betterment taxes and special assessments, linkage or impact fees, TIF, or community benefit agreements, include defined zones to which the benefits should be directed

(Hendricks et al. 2017; Germán and Bernstein 2018;). The first element of the target of benefits of value capture programs that can vary is the criteria for selection of the target, often in the form of designating these defined zones. Misczynski (2012) points out that the areas targeted for benefits are usually, but not necessarily the same as the area being developed, which is the source of the captured profits.

In some of the common value capture mechanisms, for instance TIF or business development districts, the original idea behind utilizing value capture was to target blighted or undeveloped areas. When American states created regulations governing the use of TIF to finance infrastructure, 37 out of 47 states with TIF regulation included poverty rates or blight as criteria for designation. Some states, for instance Missouri and Pennsylvania, never had such criteria. In later years, many states loosened the requirements for the creation of TIF mechanisms by eliminating blight requirements, meaning value capture could be used to fund infrastructure in thriving, often suburban neighborhoods (Talankar and Davis 2003). TIF-eligible areas have also been designed to include both high land value and high poverty areas, which could strengthen TIF's function as a tool to redistribute resources, as profits from high and rising value neighborhoods can be used to benefit poorer neighborhoods. In contrast, TIF can be designed to funnel resources back into the same new developments from which the profits originated; TIF has been used to, both, provide infrastructure for empty lands to be developed and provide amenities like lights and street furniture in shopping districts (Misczynski 2012). This means that the value being captured is being used to benefit the residents and users of the newly developed areas, and by extension the developers, as opposed to being directed to those lacking resources.

Elsewhere, there have been concerns over whether it is legal for infrastructure built through value capture mechanisms to benefit those not in targeted areas. In California, special assessments fees had to pay for infrastructure which provided a special benefit for the area under assessment. This means that there were questions as to whether a park abutting, but not inside the assessment zone, or a school serving both residents of the assessment zone, and residents outside of it, were legitimate recipients of special assessment funding (Misczynski 2012). The question of the targeting of benefits is a critical one as this determines whether a particular implementation of value capture serves more to redistribute resources from the developer to the public, or whether those resources go to further increase the value of the development. Other mechanisms were enacted without any means targeting at all; the variety of betterment tax policies in Great Britain over the 20th, and into the 21st century did not target poor or blighted areas, but rather extracted varying percentages of the betterments regardless of the socioeconomic condition of the area (Alterman 2012). In this regard, a 'community infrastructure levy' introduced in 2008 in Britain brought much criticism because the levy "is not used directly for the benefit of the actual development, but as a contribution towards new infrastructure..." (Askew 2018, 76).

There is also a variety in spatial characteristics of the areas defined as the target of benefits in value capture mechanisms. The area designated to receive benefits can be drawn narrowly to focus on the newly developed neighborhood or can be drawn more broadly to include either neighborhoods where decisionmakers and developers want to direct the benefits, or to include certain ripe areas to be developed (Misczynski 2012). The targeted areas may or may not be contiguous with one another (Talankar and Davis 2003).

TAMA 38 lies on the far end of the spectrum in terms of the targeting of benefits. The benefits, in the form of seismic retrofitting, as well as urban regeneration and facelift, are directed not just to the area around the new developments, but to the very same building. This means that both the developer, and the existing residents of the building reap the benefits of the improvements. It is also worth noting that TAMA 38 is not targeted in another way –there is no means test, and it is not limited to poorer cities or neighborhoods (although it is limited to older buildings). On the contrary, TAMA 38 applies equally to any building built before 1980. However, this is misleading because market forces mean that TAMA 38 is only feasible in buildings with high value. Therefore, on the spectrum of value capture mechanisms with a distributive function to those which serve to bring improvements to already relatively affluent areas, TAMA 38 tends strongly towards the latter.

The value recycling component of value capture mechanisms can provide any number of different benefits, including transportation infrastructure (Levinson and Istrate 2011), parks (Misczynski 2012), affordable housing (Ingram and Hong 2012), or the cleaning of brownfield sites (Talanker and Davis 2002). It is useful, however, to divide these benefits into those produced through the transfer of financial resources to the public sector, and those provided through the private provision of the benefits, often in the form of developers being responsible for developing the infrastructure or property in question. Huxley (2009) describes this as the difference between public sector and private sector led reinvestment (p. 9). Some value capture plans involve a combination of public and private sector led reinvestment. For instance, in the creation of a new stadium for the Arsenal football team in London, developers contributed funds toward improving transportation infrastructure and building public housing (Jones and Evans 2013).

Tama 38 involves mostly private sector–led reinvestment. The developer delivers all the benefits without (or almost without) adding any money into public coffers. In fact, under TAMA 38 municipalities forfeit part of the betterment levy that would otherwise come to them from this development, so TAMA 38 developments come at the expense of the public.

Finally, there is variation not only in how benefits are targeted and who targets them, but also in the process by which decisions are made about benefits, targets, and the whole value capture mechanism. Value capture is a process involving public and private interests, but the balance of those interests can depend on where the power lies in the decision-making process. Fainstein (2012), cognizant of the dangers of allowing developers to have too much power in the value capture process, advocates value capture mechanisms which do the most to preserve the power of the state and of public interests. She presents Singapore and Amsterdam as two examples where public ownership of land (combined with private ownership of individual apartments) has led to an absence of speculation on land, and the spatial spread, rather than concentration of wealth and poverty. The other extreme is one where the developer has a strong hand in the value capture mechanism. One example at this extreme is Business Improvement Districts, which might be a downtown shopping area where the businesses in the area more or less control how the money raised is spent, and spend it on things like cleaning, security guards, people to give information, decorations, and events (Misczynski 2012). These benefits clearly go directly back to the businesses which pay for them, and the value capture mechanism, in this case, does little or nothing to shift the profits from businesses to the public.

Most cases, of course, lie somewhere in the middle. Any system where deals are struck on a development by development basis has the potential to put power in the hands of developers when municipalities are eager to develop a poor or blighted neighborhood, thirsty for the revenue that development will bring, and wary that neighboring municipalities could offer a sweeter deal. In this case the developer might be able to negotiate a deal where the benefits are primarily ones that raise the value of the development itself or make it more attractive to potential residents or businesses, rather than redistributing resources to those who are already there. On the other hand, where the benefits demanded from developers are already laid out, value capture mechanisms can take the power out of the hand of developers, making them less likely to redirect resources for their own benefit.

In the initial iteration of TAMA 38, the required benefits were clearly spelled out, so the developer had less room to negotiate. This might explain why developers lobbied to increase the building rights they are granted for every building. In addition, since TAMA 38 is done on a building by building basis, developers do have some leverage with building residents, as there is always another building they can work with if the residents are too demanding.

Challenges Associated with the Implementation of Value Capture

TAMA 38 is considered by some to be a challenging policy to implement (Bosso 2016; Frenkel 2019). The Israeli policy of TAMA 38 therefore brings to the fore the question of whether value capture instruments are easy to implement.

From a structural point of view, several scholars point out the need to adjust the existing planning and legal system for value capture tools to work successfully (Smolka 2013, 60). Specifically, Slegtenhorst argues that to use value capture tools more effectively, “adjustments have to be made in the legal system” (Slegtenhorst 2013, 6). Smolka (2013) opines that local arrangements can be adopted ahead of national legislation.

Existing literature provides additional evidence about institutional capacity and its connection with value capture. Specifically, Almeida et al. (2018) note that local governments play a crucial role in enabling development which utilizes value capture. Particularly, when direct value capture policies (e.g. land readjustment) are implemented, the public authority acts as process facilitator, which is a crucial factor that can affect value capture. Public authorities’ involvement is also important for setting the ‘rules of the game’ (laws and guidelines) and the way in which value capture tools will be utilized.

Without guidelines, value capture may proceed ad-hoc, negotiated by owners, developers and government, but the ad-hoc nature of the process can be an impediment to creating value increments. On the other hand, when rules for value recoupment are made clearer (as laws or guidelines) value capture can proceed more smoothly (McCarthy 2017).

Other scholars note that lack of political will, institutional weaknesses, lack of enforcement as well as lack of information, all come together to make value capture more difficult, especially in developing countries. For example, Brown-Luthango (2011) illustrates how weak management by public authorities led to a significant drop in the collection of betterment taxes in Indonesia.

Likewise, Rebelo (2017) notes that when calculations of value uplift are hard to make (due to missing data or conflicting data), it becomes harder to compute sums payable by different stakeholders as levies or other contributions.

To leapfrog over government failure, some jurisdictions have applied indirect value capture, as well as market-based mechanisms to make value capture more efficient. Indirect value capture, which can include exactions, developer agreements and incentive zoning, is flexible enough to adapt to different contexts and regulatory frameworks (Nguyen et al. 2017). But even when private agents are involved in implementing value capture, especially through incentive zoning, several challenges might still make value recoupment very hard to achieve or highly contested. Indeed, Nguyen et al. (2017) point out the possible misuse of incentive zoning by private developers, and likewise Margalit (2014) finds that incentive zoning may affect the urban-scape and create random development which does not correspond with its surrounding.

Muñoz Gielen (2016) further explores the role of private entities in value capture; specifically, he examines how value capture depends on implementing agencies to create and harness value increments. He finds that private owners can misuse their property rights as a shield to prevent development and prevent the capture of value increments (Muñoz Gielen 2016, 84).

Another group of studies explores the relationship between government authorities and other stakeholders in the implementation of value capture tools. Muñoz Gielen (2016) points out cases in which private stakeholders create externalities and costs they refuse to pay for, thereby forcing local governments to find ways to offset such costs. Smolka (2013) finds that the political resolve of government leaders is important, but not enough for securing value capture. Specifically, according to Smolka, government authorities must engage in a dialogue with fiscal, planning, and judicial entities, as well as with private stakeholders.

Coordination problems between public and private stakeholders are also cited as a problem for implementing value capture tools (Muñoz Gielen 2016). At times, private and public authorities do not cooperate (Id.), especially when stakeholders do not see a direct link between the benefits they receive and public intervention (Smolka 2013).

Looking at the United States, Levinson (2011) argues that there are coordination problems between different tiers of government. Specifically, while land use is governed locally, certain initiatives are conducted at the state or federal levels. As a result, state-level initiatives might disregard local conditions, and value capture at the local level of government may not be in line with national projects and infrastructure needs. Moreover, central government can impose laws and courts may set precedents that constrain localities, but when city administrations capture value through discretionary or negotiated means, central government has less power over localities (Altshuler and Gomez-Ibanez 1993, 130).

Local governments can distance themselves from national value capture prescriptions by being autonomous and exercising their discretionary powers. In this regard, Oppio et al. (2018) found that in France different local interpretations of national value capture tools are associated with flexible but also ineffective arrangements. Smolka (2013) also identifies this phenomenon in Brazil; while central government had imposed a mandate on all municipalities to charge for

additional building rights, many cities were unwilling or ill-prepared to implement this mandate, thereby ignoring government prescriptions regarding land value capture (Smolka 2013, 39).

Implementation of value capture measures not only depends on institutions and government arrangements, but also on land values and on the ability of stakeholders to recoup enough value (Suzuki et al. 2015). For example, when value capture is based on the sale of air rights or any other right to build, implementation is significantly tied to land values. Looking at case examples from Minnesota, Levinson (2011) found that air rights work where land is expensive. When land values are low and cannot generate enough revenue through development, value capture becomes more of a challenge.

When value capture depends on agreement reached between several parties, implementation can also be stalled owing to disagreement between parties. In addition, value capture theory notes that ad-hoc agreements, that create value for recoupment, are hard to monitor, and they might result in unfair arrangements (Alterman 2012; Oppio et al. 2018).

Problematic Outcomes of Land Value Capture Instruments

TAMA 38 is considered by some as a policy having problematic outcomes (Bimkom Planners for Planning Rights 2010). The Israeli policy of TAMA 38 therefore brings to the fore the question of whether value capture instruments necessarily result in unwanted or unanticipated outcomes. Scholars argue that when governments do not fully understand how value capture tools work, adopted policies “do not necessarily lead to positive effects in the overall amount of land values being taxed” (Smolka and Amborski 2000, 20).

Talanker and Davis (2003) demonstrate how certain land value capture tools, specifically tax increment financing, have been utilized by US states in a manner that diminishes the programs’ targeting of impoverished areas. The authors also argue that some value capture programs have been totally realigned while adopting entirely new objectives (and desired outcomes); in particular, enterprise zones and tax increment financing laws in the United States have been amended to put economic development for the wealthy at their target, instead of reducing poverty (Talanker and Davis 2003).

Another group of studies found that value capture instruments, when equally applied on a national scale, might give way to unfair and unequal treatment of landowners (Rebelo 2017; Alterman 2012). The House of Commons of the United Kingdom found in a special report that national value capture tools have had unanticipated distributional outcomes. As a result, the report recommended to “allocate land value increases fairly between central government, local authorities and landowners, without undermining incentives to sell or risk holding up the development process. Consideration should also be given to a mechanism for the redistribution of revenues between high and low-value areas” (United Kingdom House of Commons 2018, 18).

Moreover, the outcomes of value capture policies may be random, unevenly distributed, and can depend on exogenous factors, such as the negotiation skills of public officials and planners. Biggar (2017) found that in Toronto density bonuses may secure a variety of community benefits, yet these benefits are unevenly distributed in the city’s districts. “One explanation is the

skill and negotiating acumen of councilors. Some councilors are more talented negotiators than others based on their experience and knowledge of planning. In the right circumstances, councilors may leverage their position to negotiate a higher or lower amount of the uplift from new development projects” (Biggar 2017, 75). Put differently, value capture literature has indicated that policy outcomes depend on political acumen and knowledge, as well as on the commitment of local planners to a certain vision of their city.

Legal Aspects of TAMA 38

The foregoing discussion puts TAMA 38 in its broader theoretical and local context. The following discussion digs deeper, presenting and analyzing the legal, economic, and planning aspects of the national TAMA 38 policy.

In this chapter we begin by describing key legal issues that challenge the implementation of TAMA 38 as a value capture mechanism. We discuss unclear provisions of the policy, and then introduce some of the relevant court rulings. The analysis suggests that quite a few local planning decisions are being challenged in courts and appeal tribunals. Looking at key decisions, it becomes clear that courts have bought into central government’s policy, and enabled TAMA 38 projects to push through the cobwebs of local planning decisions.

Unclear Provisions of TAMA 38

As a legal document, the TAMA includes many provisions that are contested in courts and appeal tribunals, (Bosso 2015b; Gazit 2017b). As a ‘living’ document, it faces quite a few interpretive issues:

- How many flats can be added? Is it possible to build a larger number of smaller flats using the same amount of floorspace granted by TAMA incentives?
- What is the permitted size of an extension to existing flats? When these flats are enlarged, is there a cap (Frenkel 2019)?
- Can local planning authorities refuse to grant planning permission when they are working on a new policy intended to curb TAMA 38 development?
- When there are local guidelines for implementing TAMA development, how should they be interpreted, and could they overwrite TAMA’s provisions?

Some of these dilemmas have been decided by courts and appeal tribunals. For the most part, the application of TAMA is dependent on the specific location, size of plot, and the geographic setting in which the plot is located. Although the amendments to the TAMA policy (see Table 4) define the height of future development, the exact number of flats that can be added and the extension of existing apartments is not absolutely fixed, but rather changes from one project to another. Economic feasibility is often cited as the reason for allowing an owner to build larger flats, or to add more flats in an existing plot, than the number or size allowed per plot by the existing statutory plans. This brings a component of uncertainty to these projects, which can make them riskier from a financial point of view. Because a decision to grant a planning permit is an ad-hoc decision, its actual implementation relies on local interpretation and, as a result,

creates uncertain outcomes. For example, even when a developer knows that it is possible to add two and a half floors to an existing building, it is unclear whether they will be allowed to add two, four, or six new flats on those same floors.

Having said that, despite interpretive hurdles, there are several legal rules that increase certainty. These rules are specified in the provisions of the TAMA policy, and they are designed to help developers and cities determine *a priori* what can be built in accordance with the National Plan. Table 4 depicts some of these rules.

Table 4: Rules Designed to Increase Transparency in a TAMA Project

Aspect	Section in TAMA 38	Rule
Additional Floors	11.1.2 (A) 11.1.2. (B)	The size of extra floors will amount to the size of existing floors below them. In case existing flats in lower-level floors have been expanded and enlarged, the added extra floors can also cover the enlarged floors below them.
One reinforced living room per housing unit	11.1.2 (C)	Existing flats that are to be enlarged (as well as new flats) will include at least one structurally reinforced living room. This room, also known as MAMAD, is made of reinforced concrete, and can withstand earthquakes as well as direct missile hits. The Israeli Planning and Building Regulations determine its size, which is approximately 10 square meters (net). This means that the expansion of each flat will amount to 10 square meters. Example: If there are 4 apartments per floor in an existing building, when it undergoes TAMA 38 renovation and expansion, each apartment will receive at least 10 square meters as a bonus, and the entire floor will be enlarged by 40 sq/m.
The total size of expanded flats	11.1.4. (E)	Each expanded flat can receive extra FAR amounting to a total of 25 square meters per apartment.
Top floor expansion	11.1.3 (A) 11.1.3. (E)	The upper most floor in the building will be half the size of the newly added floors beneath it. However, when the City has in place a special statutory plan which relates to rooftops, it can exercise its discretion and approve a rooftop flat of a different size.
Building beyond approved building lines	11.1.4	A developer may expand the existing building beyond the statutory building-lines, as long as the TAMA expansion leaves 2 meters on each side of the plot, 2 meters to the front of the plot, and 3 meters to its back. Example: A plot is situated in a neighborhood in which the City has already approved a detailed local master plan which determines building lines in each plot. The local provisions of the plan are mandatory and amount to 4 meters on each side of the plot's boundaries. When a TAMA application is approved, those building lines are ignored and can be overridden, thereby creating new mass and new appearance of the building.
A plot that has not utilized its entire bundle of rights	14.A	Whereby a given plot has underutilized its FAR rights according to existing local plans, the unbuilt share of floorspace will be added to the bundle of rights enabled by the National TAMA plan.

Source: The National Outline Plan No. 38. (2016).

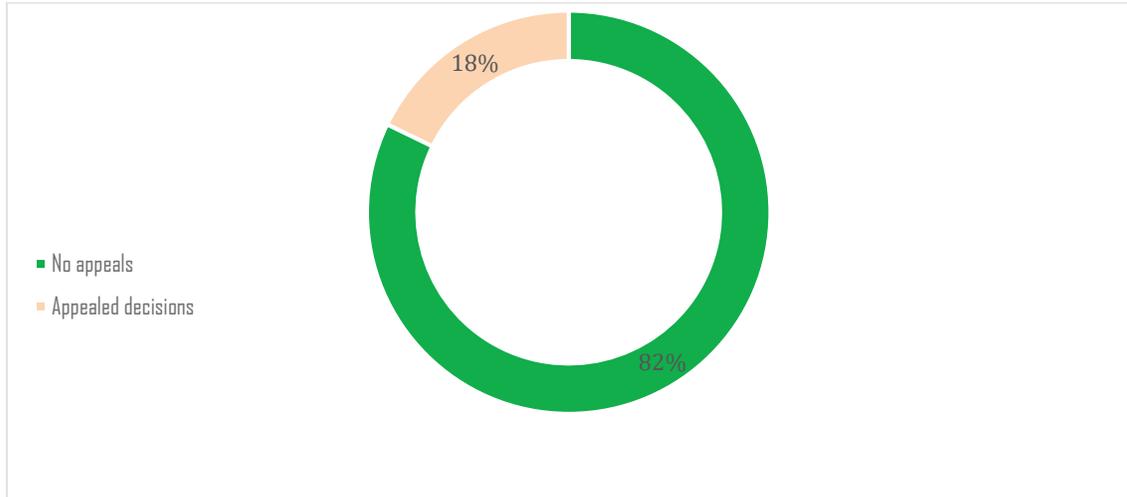
The TAMA policy has introduced a series of rules that determine the way in which the plan will be implemented. There are no reasonableness tests for the addition of building rights as these are determined by central government. This approach makes TAMA easy to implement because added FAR does not depend on negotiation between local planning authorities and owners. Despite these rules, both tracks of TAMA 38 bring about many legal complications. At times, developers and objecting neighbors fight over the interpretation of a certain stipulation in the plan. At other times, developers fight local governments for adopting guidelines of local plans that curtail the ability to develop according to TAMA 38. These quandaries eventually come before courts and appeal tribunals.

The Perspective of Courts and Appeal Tribunals

Out of 5553 planning applications submitted to local planning authorities in accordance with TAMA provisions, we have found that about one fifth (approx. 990) of applications become the subject of planning appeals (Figure 22). The data is based on professional legal databases that store planning and appeal decisions (nevo.co.il). Since not every single appeal decision is uploaded onto these databases, it is safe to estimate that TAMA projects may be even more contentious.

The appeal system in Israel allows developers, third parties, and aggrieved owners to file appeals against local planning decisions (Mualam 2014). The number of appeals compared to the number of TAMA applications suggests that these developments are the source of contention, animosity, and conflict. Neighbors in adjacent properties who bought their flats based on local detailed plans suddenly face nationally imposed upzoning that results in unanticipated development nearby. People who bought apartments in neighborhoods with a certain feeling, a certain urban fabric, a certain style, and a certain density, may encounter planning applications in accordance with TAMA 38 that seek to change the characteristics of the neighborhood. Developers and owners also have the right to appeal denials or partial denials of their right to build. These challenges lead to a difficult reality in which almost 1 out of 5 planning applications become stuck in the mire of the planning appeal process.

Figure 22: The Share of Planning Appeals Filed Against TAMA Planning Applications (2005–2017) Compared to the Number of Applications Submitted in 2005–2017



Source: Authors' comparison based on the Israeli Legal database (nevo.co.il).

Despite these difficulties, we have also found that when challenges are made by different parties, courts and appeal tribunals often play the role of enablers of TAMA 38 projects. Even when planning applications had been challenged by angry neighbors, developers, or owners, judicial bodies proved quite receptive to TAMA 38. They acknowledged the primary importance of the national plan and were generally in favor of its implementation. In cases where developers with chutzpah crossed the line by ignoring neighbors' pleas, or by proposing extremely high densities, courts have intervened in attempt to curb development, more so in historically sensitive places. In addition, courts have been reluctant to intervene in local decisions that approve TAMA 38 projects, especially when such decisions strike a balance between the rights of the developer and the right of adjacent property owners. By so doing, judicial bodies have been singing to the government's tune, allowing developers to reap TAMA incentives while enabling the capture of value.

Out of hundreds of appeal decisions and court rulings, there are several notable decisions that exemplify the disposition of judicial bodies towards this policy. These decisions set rules and precedents in similar cases. We discuss them briefly here, as they shed some light on TAMA 38 as a value capture mechanism.

Courts Defer to National Interests over Local Decision-Making

In June 2017, a group of over 20 municipalities, together with the Federation of Local Governments in Israel, petitioned against TAMA 38. The petition was filed to the High Court of Justice, as it challenged the reasonableness of government actions (High Court of Justice Petition No. 64/17 (2017)). The Federation demanded the annulment of the newest amendments inserted in the TAMA, which enabled local developers and landowners to add more floorspace to existing buildings while making them earthquake-ready (see Table 4). According to the Federation of Local Governments, the amendments empowered local entrepreneurs while reducing the role of

municipalities and their power to control development. The Federation added that the new plan ignores their position and circumvents existing planning processes by making local planning a national matter. They claimed that nationally imposed upzoning creates disarray in local planning, disrupting existing plans. Upzoning through national-level plans also leapfrogs over local vision and policies. Moreover, the Federation argued that the initial goals of the TAMA have been twisted, and thus it no longer functions as hazard-mitigating policy, but rather turns into a machine for the production of housing units and the creation of economic surplus, while disregarding local plans. According to the Federation, this is because the plan failed and does not work well in low-demand, peripheral areas. The Federation opined that although an increase in the production of housing unit is an important goal, it cannot become the basis for disrupting local plan-making. For example, if a city decides to strictly control development in a specific area owing to it being architecturally sensitive, the city should be allowed to do so, without central-government intervention. TAMA 38, however, may incentivize developers and owners to add floors and to ignore the policy of municipalities. In addition, the petitioners argued that the new plan delimits their discretion. Thus, their ability to deny a planning permit is significantly reduced.

The High Court of Justice delivered its judgment on August 2017. It refused to accept the Federation's petition and sided with central government. It opined that the plan, including its new amendments, is neither void nor legally unreasonable. The court also ruled that although the TAMA potentially adds millions of square meters to structures built before 1980, municipalities still retain their powers and discretion to refuse planning permits which are harmful to the landscape, urbanscape, or the historic environment. The Court rejected the municipalities' argument that TAMA 38 embodies a complete reconfiguration of the planning hierarchy and disregards previously approved local statutory plans. No less important was the High Court's opinion that incentives are reasonable if they help achieve crucial public goals. Specifically, the Court ruled the economic surplus created through the TAMA is part of planning practice and is justified as a policy to improve the chances of implementing the plan.

By rejecting the petition, the Court bought into the government's argument according to which superimposed national plans can intervene in local planning, even in the very process of awarding planning permission –normally an essential function of local planning authorities. The Court's ruling in fact limited the discretion of cities when they are approached by an owner or a developer asking for planning permission. This micro-management of development by central government tips the planning hierarchy on its head, making the local a national matter, and allowing central government ministries to impose their will on local mayors. While the Court did acknowledge the importance of local plan-making and local control over development, it deferred to the discretion of the government as a better representative of the public good.

The Court made it clear that intergovernmental relationships are shaped primarily by central government. By so doing, the Court accentuated the basic premise in planning politics according to which "local government is only autonomous in the constraints or regulations laid down by the central state through legislation" (Tewdwr-Jones 2002, 32). This position also suggested that local planning autonomy is depleted "through the reorientation of local government as agents or enablers of central government" (Id.). The novelty in the Court's ruling is that it gives green light to central government to minimize the role of municipalities and local planners as implementing

agents of central policy.⁴ The Israeli government, through TAMA 38, has made it clear that even traditionally local powers such as granting of planning permits are constrained by national rules that determine where, how, and when planning permits should be issued in the name of earthquake preparedness.

Courts Consider the National Outline Plan a Crucial Public Tool

The Court clarified its view of TAMA 38 as a crucial planning tool in a planning decision made in 2016. The Supreme Court examined a decision in the City of Haifa to grant a planning permit to expand existing apartments and build new flats in a residential apartment building. The court drew a clear line between the public interest and incentive zoning which allows certain works to be carried out by private hands. However, it stressed that the primary interest to be considered is the public interest in earthquake preparedness. Of lesser concern is the private interest of owners, which is, after all, a means to an end; by boosting owners' rights a public goal is obtained, the Court ruled.

Continuing the line of reasoning which delimits local discretion, the Court noted that although the local planning authority can refuse a planning permit, according to the provisions of the National Plan, such refusal must take place only in special circumstances, and be the exception—not the rule. Specifically, the court noted that:

National Outline Plan No. 38 is designed to encourage the strengthening of existing structures against earthquakes, inter alia, by providing economic and planning incentives, which often create a conflict with local planning arrangements that apply to certain plots, due to the possibility of deviating from statutory plans. However, in the State of Israel, the implementation of the TAMA is of great importance in order to cope with the risk of an earthquake and to contribute to urban renewal and the supply of housing units... The interest protected by National Outline Plan No. 38 is not the private interest of apartment owners to maximize their profits and improve their apartments, but rather the public interest in preparing for an earthquake scenario. Thus, the local planning committee has the power not to approve a building permit given planning, architectural, landscaping and other considerations...

... In light of the unavoidable clash between the realization of the TAMA, through economic incentives and the specific local statutory plans that apply to those structures that require reinforcement, it seems that planning, architectural or landscape considerations do not justify outright refusal. The local planning authority must grant a building permit, which involves the addition of building rights, unless there are significant considerations that cause unreasonable and disproportionate harm to other legitimate interests, including the interest of third

⁴ As noted above, Israeli legal provisions do not relate directly to the relationship between national and local governments. However, a range of parliamentary laws do create the institutional framework that regulates the power of the state over its localities, as well as the powers and discretion granted to cities. The latter, however, are primarily considered as subordinates and as an extension of central government. This is similar to Dillon's Rule, according to which local governments have only those powers expressly granted to them by the State.

parties who object to a planning permit” (Administrative Appeal 7381/15, *Dorfberger Inc. vs. Abraham Oded*).

Local Planning Authorities Should Refrain from Burdening Developers with Unnecessary Requirements

Another group of important decisions came from appeal tribunals; when faced with cases in which local planning authorities sought to change the height, bulk, building-lines or general architecture of the proposed TAMA development, appeal tribunals noted that each planning application, and TAMA 38 applications in particular, is based on a complex contractual relationship between the owners of the plot and the developer. By intervening, the local planning authority might unbalance this relationship and stall TAMA development. Because of the sense of urgency in such projects, tribunals noted, local planning authorities should refrain from intervening too much in a manner that could affect the surplus value gained by developers as well as flat owners. For example, in Planning Appeal No. 5406/13 *Talnir Investments vs. the City of Tel Aviv*, the tribunal ruled that the city’s local planning committee must be sensitive to the agreement reached between the developer and existing flat owners, who had sold their extra building rights based on certain benefits they had expected to receive. In that particular case, the city refused a permit which created a spacious yard, instead turning it into a parking lot to serve the tenants of the residential building undergoing TAMA development. This decision was reversed by the tribunal, noting that:

As for a planning application submitted under TAMA 38, the local planning committee must be aware of the contractual dynamics between the applicants. All the more so, when it wishes to make changes to the permit application.

In contrast to a situation in which a request for a planning permit is submitted in an empty lot, as far as the request for a building permit is based on the TAMA track, the application usually follows complex and protracted negotiations between owners and developers... any change in the building permit required by the local planning committee is liable to lead to a revision in the contract signed by the parties before submitting their application, which may lead to the failure of the project, or at least to delaying it for a long period of time.

This decision, like the ones mentioned above, streamlined development and confined the discretion of the local planning authority to intervene in this market-based policy. The courts have overruled that steps taken by local government should not impede TAMA development by ignoring the need or desire of the developers to make a profit, and the need of owners to improve their lives. In fact, this group of decisions treated the owners of land, and the developers who execute the project as one; courts viewed them both as enablers of development and suppliers of public goods.

The Limits of Discretion: Arbitrary Rejections of Planning Applications Should Be Avoided

It is not new that administrative law in the Anglo-American legal system, as in other legal frameworks, calls on government bodies to exercise their discretionary powers in a manner that is neither arbitrary nor erroneous. Local planning agencies in Israel are called to make lawful

decisions, without bias or conflict of interests (Zur 2014). When it comes to TAMA 38, pushback from cities is not uncommon (Bosso 2016; Gutter 2017), with quite a few towns attempting to compile Master Plans, or local policies and guidelines that delimit the extent of floorspace which can be added in an existing plot using TAMA incentives (Sheffer 2013; Sheffer & Paz-Frenkel 2013). Thus, localities proceeded to adapt the national policy to their specific needs; for example, Tel Aviv-Jaffa passed local guidelines that do not allow TAMA 38 to proceed in historic urban areas while other towns sought ways to increase the financial feasibility of TAMA 38 by streamlining the building-permit procedure and allowing flexibility in construction (Smolsky 2014) by allowing construction outside of the designated building lines, or by giving clear instructions to a variety of stakeholders engaged in such projects (Id.). These measures have been designed to increase the value increments in a given plot in order to allow the project to materialize. They were also designed to boost land value increases.

Section 22 in the TAMA policy, as well as Court decisions *do allow* cities to make their own local rules, such as in historically sensitive areas. However, the city must approve a statutory plan: a comprehensive plan or another master plan which sets local conditions and rules for the application of the TAMA policy in certain neighborhoods. Such a plan can determine in what neighborhoods the TAMA can be implemented, and it can also set local rules for building according to the TAMA policy. For instance, local plans can set different rules for the local application of the TAMA by, for example, requiring provision of space for public services within the boundaries of the plot. While some cities have approved such plans, others delayed their decisions and relied on unwritten rules or non-statutory local guidelines (City of Tel Aviv 2017).

Such was the case in Shlonsky St. in Tel Aviv, where the developer sought planning permission to add two and a half floors to an old condominium building. The City of Tel Aviv refused the application, arguing that its policies allow only 1.5 floors to be added on top of that building. The developer filed an appeal with the Appeals Tribunal, which supported the application, and criticized the City for its arbitrary decision (Planning Appeal No. 5273/14 *Hoiberger Inc. vs the City of Tel Aviv*). Referring to the provisions of the National Plan, the Tribunal noted:

Section 22 of National Outline Plan No. 38 states that the contents of this plan shall not prevent the local committee from refusing to grant a planning permit that involves the addition of building rights if it finds special reasons arising from planning, architectural, infrastructure-related, or landscape considerations. Refusal can also be considered when the local planning commission finds that the proposed additions must be examined in the context of a statutory plan that will regulate these extensions in light of the required floorspace. The local committee shall specify in writing the special reasons for such refusal. The provisions of this section shall not apply to a permit to reinforce a building with no additional building rights.

As we have explained in the past, Section 22 of the TAMA does not allow for a sweeping denial of rights under the National Plan, but rather requires discussion with respect to a specific plot while inspecting each individual case based on its merits. For the purpose of a sweeping denial of rights, we believe that the City must first prepare a statutory plan.

Thus, the application was allowed by the Appeals Tribunal, despite the City's objections. The Tribunal fortified the right of owners and developers to make a profit without local interference. Figures 23a and 23b show the outcome of this application.

Striking a Reasonable Balance Between Competing Interests

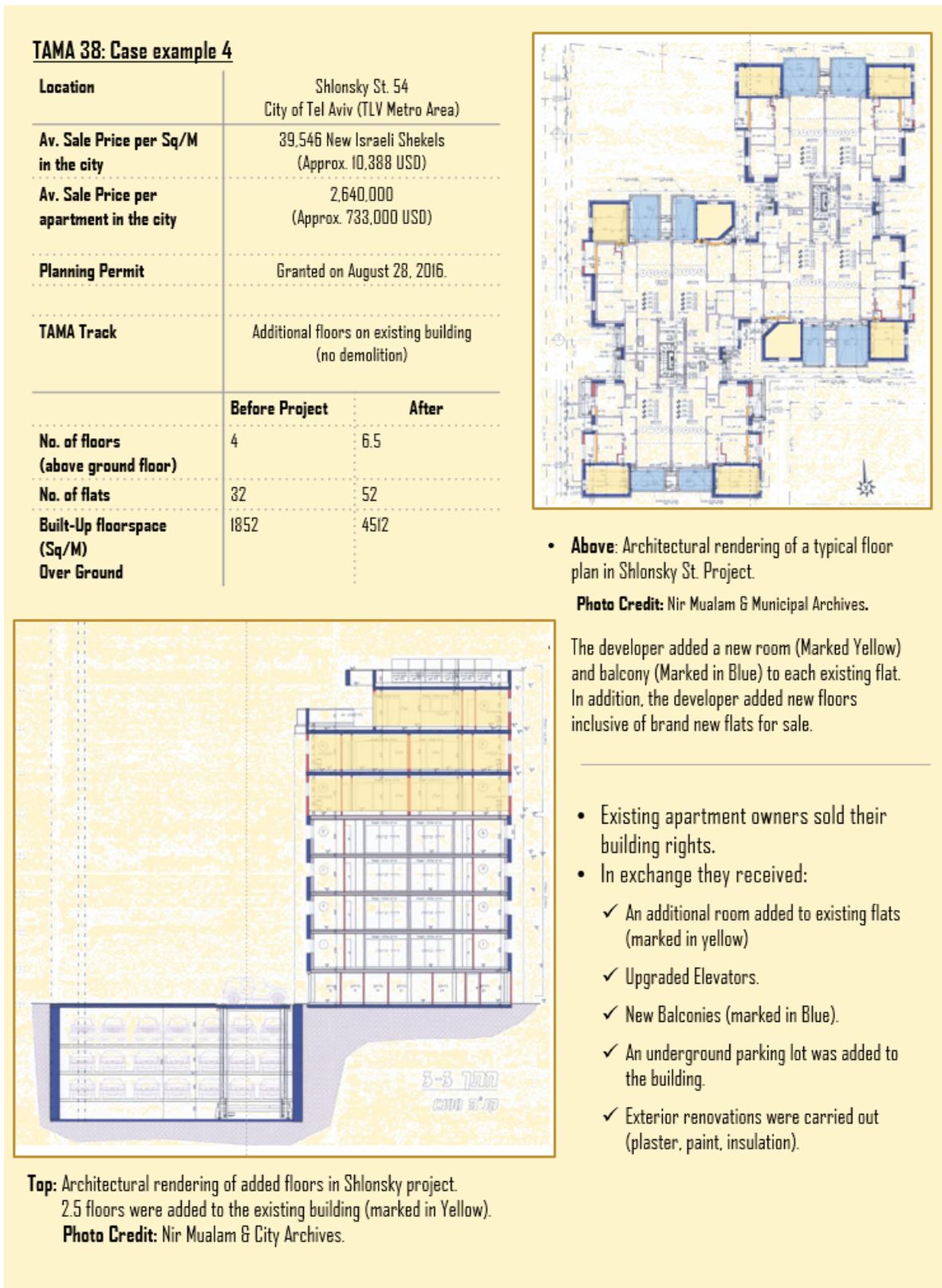
Alongside these court and appeal decisions, judicial authorities also supported local decisions that are reasonable and properly balance the interests of different stakeholders. These decisions acknowledge the primacy of value capture and the economic imperative embedded in the national policy. Yet, at the same time, they recognize that local decisions are able to strike a balance between profit-making and competing interests. These cases support the power of local authorities to limit the implementation of TAMA 38, especially in cases where it might destabilize local planning or bring about unreasonable outcomes.

In Planning Appeal 5059/17 *Berlad vs. The City of Givatayim* a developer requested an approval for 32 flats, following demolition of an old residential building. This would more than triple the number of existing flats on the plot which included 10 apartments before demolition. The city argued that this would increase housing densities in the neighborhood above a certain reasonable threshold and thus approved 30 flats instead of 32. The developer appealed, but the Appeal Tribunal supported the city's decision, stating that:

In principle, it should be noted that in the hearing of applications for a permit under National Outline Plan 38, the respondent (the City) is given broad planning discretion in determining the number of suitable housing units. This is more than appropriate while taking into consideration the city's urban planning policy and the characteristics of the street and the surrounding area. Without limiting the importance of National Outline Plan 38, and although the legislator's intended to promote such projects as much as possible, the rights under National Outline Plan 38 are not vested rights and the local planning committee has broad discretion not to approve such a project for planning reasons.

The number of housing units is certainly a consideration in calculating the economic value of the project and the chances of its implementation. It is clear that the higher the number of housing units in a given application, the higher its economic value. On the other hand, the number of residential units that can be added within the boundaries of the city by virtue of National Outline Plan 38 is necessarily limited, given the need for infrastructure, including public amenities that support the addition of housing units. The National Outline Plan, however, does not produce additional and responsive infrastructure and public spaces (Paragraphs 26–27).

Figure 23a: Shlonsky St. Project in Tel Aviv



Source: City Archives of Tel Aviv and authors' analysis.

Figure 23b: Shlonsky Street Project—Before and After Renovations

TAMA 38: Case example 4 (continued)

Location	Shlonsky St. 54 City of Tel Aviv (TLV Metro Area)
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Top: Shlonsky st. before renovations.

Photo Credit: Nir Mualam (August 2016).



Top: Shlonsky St. following renovations.

Photo Credit: Nir Mualam (February 2019).

Existing flats received new extra floorspace and new balconies. The building was renovated and coated with a new façade.

Source: City Archives of Tel Aviv and authors' analysis.

These debates brought the Tribunal to the conclusion that the economic consideration, however important, can be balanced against other urban considerations. This conclusion can be applied differently in different settings and it is context specific. However, it does grant cities a certain amount of leeway, even though their discretion is confined by national provisions, as set by the National Outline Plan.

Likewise, when another developer proposed a huge building which used every inch of floorspace granted by the TAMA and ignored its surrounding urbanscape, the planning tribunal backed the decision of the city to refuse a permit. Criticizing the viewpoint of the developer, who aspired to maximize profit, the Tribunal noted:

The request for a permit completely ignores the area in which the lot is located: it ignores the fact that it has only one access road reaching it; ignores the width of the road on which it borders; and the neighborhood fabric in which it is located. The only interest that stands at its foundation is the full realization of the rights of National Outline Plan 38, and even more so, while granting extensive right to build, without any planning justification and with clear damage to third parties.

The interest of maximizing rights is indeed a legitimate interest of the developer and owners, but it is not the main interest that is supposed to guide the local committee as a planning institution. As was ruled in the past, a proper examination of an application for the implementation of TAMA 38 determines the maximum bundle of rights that can be approved in accordance with the National Outline Plan, and on the basis of the specific plot, its land use, location, surroundings, the state of the public infrastructure in its vicinity, etc. (Planning Appeal 5465/15 *Ya'az and City People Inc. vs. The City of Ramat Gan*).

This decision demonstrates that although TAMA 38 does create solid ground for profit and for value capture, it cannot be interpreted solely as a profit-generating tool irrespective of urban considerations. Value capture is critical, but the courts have ruled that it must be weighed against planning considerations.

Economic Assessment of TAMA 38

This chapter explores how TAMA 38 has affected the price of housing units and how it has helped different stakeholders to reap value following upzoning. We examine how much value was captured in TAMA 38 projects, and by whom. We also look at the potential of this policy, and the value it can create for different stakeholder; owners, developers, and municipalities. The findings suggest that TAMA 38 projects have created a value uplift of about \$3.6 billion, and that TAMA 38 has the potential to create value increments up to \$133.8 billion in the future. We calculate how each interest group can tap this policy; in other words, how it operates as a value capture instrument that benefits both private and public stakeholders. We then examine where value was created. Specifically, we look for statistical correlation between different factors that could explain where and why planning permits have been granted.

The Economics of TAMA 38

A TAMA 38 transaction is called in Israel a ‘combination venture.’ In a classic combination venture, the private owner of vacant land sells a portion of his land in exchange for construction services. For example, a landowner sells his land to a developer who builds on it, retains part of the building for himself while transferring title to the original owner in other sections of the same building. For example, in a land parcel where 20 identical housing units can be built, the owner sells 60 percent of the land and remains with 40 percent. The buyer builds the 20 units, the owner receives 8 units and the buyer (a developer) receives 12 units to sell in the free market.

When it comes to TAMA 38, the setting is more complicated as the property in question is a building, presumably with tenants, not vacant land. In a TAMA 38 transaction, it is customary that the developer carries all direct and indirect expenses connected to the project, including construction costs, rent payable to tenants for equivalent apartments during the construction period (in cases tenants need to be temporarily relocated), professional fees required for lawyers, appraisals, and all other related costs.

While in a classic combination venture, the percentage of ownership sold to the entrepreneur determines the feasibility of the project is negotiable, in TAMA 38 it is not. This might render the project economically unfeasible.

The number of additional floors to be added is determined in the TAMA 38 plan. There are two types of TAMA 38 projects: TAMA 38-1 which entails renovation, reinforcement against earthquake threats, and floor space additions to the existing building (hereafter, TAMA 38-1 or TAMA 38 Track 1), and TAMA 38-2 which entails demolition of the original building, the construction of a new building which has more floor space, and is built according to the newest building codes, including seismic codes (hereafter, TAMA 38-2 or TAMA 38 Track 2).

According to section 23 in the TAMA 38 plan, local authorities maintain some discretion in the approval of local regulations defining the way in which TAMA 38 projects will be built in the city. Therefore, local governments have a crucial role in determining the feasibility of TAMA 38 projects. These powers, however, are rather constrained, as localities must approve special statutory plans in order to curb or control TAMA development. Even then, these plans are subject to central government scrutiny.

The following analysis focuses on residential uses. With regard to non-residential uses, according to section 14 in the TAMA 38 plan, an addition of one floor can be built on top of buildings with non-residential uses. Even in high demand areas, one floor is not enough to make TAMA 38 profitable for developers, meaning there is no economic feasibility for such projects. Moreover, the value of non-residential uses is usually lower than the value of residential use. To the best of our knowledge, there is no official data on the number of TAMA 38 applications related to non-residential buildings and only a handful of such projects were realized.

There are a few economic questions raised by TAMA 38. First, how might the different stakeholders benefit from TAMA 38? Next, empirically, who has captured value following

TAMA 38 projects? And lastly, what is the total value possible to be recovered under TAMA 38 if it were to be fully utilized?

Who Captures the Value Uplift?

We will now discuss the position of key stakeholders, those directly and indirectly affected by TAMA 38 projects. We define four TAMA 38 consumers:

- a. Apartment owners implementing a TAMA 38 project
- b. Developers executing a TAMA 38 project
- c. Public authorities at the local and national level
- d. The public; residents of neighborhoods where TAMA 38 projects are realized

We ask: Who captures the land value? Does everyone benefit?

A. Apartment Owners Implementing a TAMA 38 Project

A typical apartment entitled to a TAMA 38 project usually has one or all of the following attributes: it has not been recently renovated, it does not have a balcony, it is situated in an old building which does not include a parking place, an elevator, or a storage room.

Apartment owners benefit as they may enjoy any or all the following enhancements from TAMA 38:

- The building is renovated (TAMA 38 Track 1) or built anew (TAMA 38 Track 2) and is reinforced against earthquake threats
- An elevator is added to the building
- A parking spot in the building is legally attached to the apartment
- A storage room in the building is legally attached to the apartment
- The apartment size increases by a maximum of 25 sqm
- A balcony is added to the apartment.
- The new apartment is located one or more floors above its previous location
- A *mamad* (reinforced room) is added to the apartment

On the other hand, apartment owners bear costs; the residential density in TAMA projects increases, as the building contains more units. As a result, this might impinge on owner's privacy and can make management of the building more complex and expensive.

Table 5 summarizes 22 TAMA 38 projects. Specifically, it depicts the 'before' and 'after' condition of housing units in select projects realized in 2017–2018.

Table 5: Select TAMA 38 Projects

City	Tama	Units			Multiplier	Building				Current Units				Additions to current units					
		current	Added	Units after		Year Built	Floors Before	Added Floors	Floors After	Sqm	Balcony	Elevator	Parking	Sqm	Balcony	Storage	Elevator	Parking	floors up
Holon	1	16	10	26	1.625	1975	4	2.5	6.5	65	0	0	0	25	6	0	1	1	
Holon	1	16	8	24	1.5	1973	4	3	7	75	0	0	0	13	12	0	1	1	
Holon	1	9	8	17	1.89	1975	3	2.5	5.5	90	0	0	1	17	8	0	1	0	
Petach Tikva	1	96	80	176	1.83	1968	4	2.5	6.5	105	0	0	0	12	10	0	1	0	
Tel Mond	1	8	25	33	4.13	1975	3	3.5	6.5	70	0	0	0	12	8	0	1	0	
Yehud	1	16	12	28	1.75		4	2.5	6.5	107	0	0	0	12	6	6	1	0	
Givataim	2	10	18	28	2.8	1980	3	5	8	80	0	0	0	20	12	6	1	1	1
Haifa	2	5	7	12	2.40		2	3	5	78	0	0	0	25	14	0	1	1	
Hertzeliya	2	64	72	136	2.13	1973	4	5	9	70	0	0	0	25	12	6	1	1	0
Petach Tikva	2	18	45	63	3.5	1965	3	6	9	100	0	0	1	20	12	6	1	0	1
Ramat Gan	2	11	25	36	3.27		3		9	63	0	0	0	17	0	0	1	1	2
Ramat Gan	2	12	24	36	3.00	1958	2	8	10	65	0	1	1	17	6	0	0	0	
Ramat Gan	2	4	20	24	6	1955	2	7	9	50	0	0	0	96	12	0	1	1	
Ramat Gan	2	6	15	21	3.5	1965	3	7	10	76	0	0	0	13	12	0	1	1	2
Ramat Gan	2	6	12	18	3	1967	3	3	6	90	0	0	0	0	0	0	1	1	1
Ramat Gan	2	9	18	27	3	1970	3	7	10	85	0	0	0	0	6	0	1	1	2
Ramat Gan	2	12	25	37	3.08	1965	3	6	9	60	0	0	0	15	15	0	1	1	
Ramat Gan	2	20	35	55	2.75	1960	4	5	9	56	0	0	0	11	12	6	1	1	
Ramat Gan	2	13	22	35	2.69		3	7	10	65	0	0	0	0	12	0	1	1	2
Ramat Hasharon	2	9	13	22	2.44	1975	3	4	7	80	0	1	1	15	9	0	0	0	3
Tel Aviv	2	6	8	14	2.33		2	5	7	80	0	0	0	0	8	0	1	1	2
Tel Aviv	2	11	11	22	2		3	3.5	6.5		0	0	0	0	11	0	1	1	

Legend:

- **Multiplier:** The ratio between the total number of units in the new building (units after) to the number of units in the building before the project (units before). It represents how many units are built for each existing unit. A multiplier of 2 means that for each existing unit 2 units are built: 1 unit for the owner and one for the entrepreneur to sell in the free market.
- **Balcony and storage:** Reported in square meters.
- **Elevator and parking:** Receives the value '1' if an elevator or a parking place exists in the current building or will be added to the new/renovated building. The value '0' means that there is no elevator or a parking place in the current building, and they will not be added to the new or renovated building.

Source: Authors.

The projects reported in the table are taken from central cities, hence they may not represent averages for Israel as a whole. It is expected that in peripheral cities the benefits for apartment owners, especially in non-demolition projects, will be lower (as land value is significantly lower).

Looking at the 'current units' columns and 'additions to current units' columns, it can be seen that:

- In 15 out of 22 cases (approximately 68 percent), the apartment owner gained additional parking spot and an elevator following the implementation of TAMA 38.
- In 20 out of 22 cases (approximately 91 percent), a balcony was added to the apartment. These balconies vary in size from 6 to 14 sqm, with an average of 10 sqm.
- In 17 out of 22 cases (approximately 77 percent), additional floor area was added to the apartment, ranging from 11 to 25 sqm (17 sqm on average).⁵
- In 5 out of 22 cases (approximately 23 percent) a storage room was added to the apartment.

⁵ We have excluded one project in Ramat Gan, with only 4 units before renovations and with a multiplier of 6, thus allowing a significant increase in the units' floor space (by 96 sqm per apartment).

In cases of TAMA 38 Track 2, where a new building is constructed to replace the old one, the owners receive an apartment located usually one or two floors above their pre-TAMA 38 location. While there is missing data on this issue, the data suggests that in 5 out of 10 cases the apartment received by owners after the completion of the project was located two floors above its current location. In three cases the apartment was located one floor above its current location and in one case the apartment was located on the same floor (Table 5).

Comparing TAMA 38 Track 1 projects (non-demolition track) to Track 2 projects (demolition track), the most significant difference is that in the non-demolition track it is seldom physically possible to add parking spaces to the building.

In the following section we perform an evaluation of the value enhancement to the apartments of the original owners. The evaluation is based on real estate appraisal practice and the literature on housing prices. Scholars have investigated value enhancement associated with attributes of apartment units, usually applying the hedonic price model. The hedonic price model is a method of estimating the implicit price of characteristics that differentiate closely related products, such as housing (see Rosen 1974).

Chau, Leung, Yiu and Wong (2003) found in Hong Kong that the value enhancement associated with refurbishment in the housing market is approximately 9 percent. This value increase is far higher than the cost of refurbishment. In similar vein, Chau and Wong (2004) found in Hong Kong that the provision of a small balcony in an apartment in high rise residential buildings, with no outstanding landscape view increases the value of the apartment by 3.7 percent. Conroy, Narwold and Sandy (2013) found in San Diego, that an increase in the floor level for high-rise condominium commands a premium of 2.2 percent. Amedee-Manesme et al. (2017) found in Paris that the higher the floor, the higher the price. In comparison to a ground floor apartment in a building with a lift, the premium for the first floor is 7.3 percent, for the second floor 10.9 percent, and for upper floors (6th and above-with a panoramic view of Paris), the premium is approximately 15 percent. Moreover, an apartment with a parking space adjacent to a residential building, which is quite scarce in Paris, is associated with a premium of 4.7 percent for one spot and 8.9 percent for two parking spots. Garcia, Montolio and Raya (2010) found in Barcelona that an elevator increases the price per sqm of dwellings by 8.22 percent. Moreover, compared to ground floor dwellings, first floor dwellings sell for a premium of 3.25 percent; second floor dwellings sell for a premium of 3.7 percent; and third floor dwellings sell for a premium of 4.7 percent. Moreover, compared to dwellings renovated more than 20 years ago, if the dwellings were renovated in the past 5 years the premium is 7.4 percent, and 6 percent if the dwellings were renovated 6 to 10 years ago.

B. Developers Involved in TAMA 38 Projects

The second ‘consumer’ of the TAMA 38 policy is the developer. Construction companies and developers carrying out TAMA 38 projects seek to maximize profit. These entrepreneurs’ attempts to maximize profit might come at the expense of the first group of stakeholders (owners). Developers’ reasonable profit in real estate is determined as a portion of the total costs of the project. Profit calculations consider the risks ascribed to the project and the estimated period it will take to complete.

The customary profit for developers involved in residential projects in the free market is approximately 18 to 20 percent. TAMA 38 projects are associated with relatively high risk and a longer time period of execution, as they involve many stakeholders. The developer is required to maneuver between the apartment owners and is dependent on the local authority's policy and attitude towards TAMA 38.

Moreover, there is uncertainty as to whether the project will eventually be implemented due to objections by apartment owners. In fact, according to our survey, 60 percent of developers state that it takes 5 to 6 years to complete a TAMA 38 project (starting from the first meeting with flat owners), while 28 percent state it takes them more than 7 years. Moreover, developers on average note that only one out of at least six potential TAMA 38 projects materializes.

A TAMA 38 project is expected to be unfeasible if the developer's profit is less than 15 percent. Notably, a profit at the low end makes it difficult for the entrepreneur to receive bank financing, which usually requires a profit of 18 percent. Hence, in practice, the benchmark for TAMA 38 projects is 18 percent and could range between 15 to 20 percent profit, and sometimes more.

How would a developer decide whether a TAMA 38 project is economically feasible?
A feasibility test is usually applied. An example is provided next:

Figure 24a: Economic Feasibility Test for a TAMA 38 Project in the City of Beer Sheva

Feasibility Test of TAMA 38 Project in the Center of Beer Sheva

Beer Sheva is a major city located in the Negev Desert, in the south of Israel. Its residents are socioeconomically similar to the average resident of Israel, although, like all cities, it has a range of wealthier and poorer populations.

The existing building was built before 1980 and is 3 floors high (above ground floor).



The project is carried out in the non-demolition track and includes:

Reinforcement and renovation of the building;

Addition of an elevator;

Addition of 12 sqm to each existing flat;

Adding 4 flats on the ground floor.

Addition of 10 flats in 2.5 extra floors to be added to the building.

Feasibility test (continued)

The project's floorspace breakdown (in sqm):

Floor	Current floor space	additional floor space (*)	units	Apartments floor space
underground	36			
ground floor	14	374	4	315
1	340	52	4	375
2	340	52	4	375
3	340	52	4	375
4		392	4	375
5		392	4	375
top floor		205	2	187
total	1,070	1,519	26	2,377
(*) including service floor area				

Developer's revenue estimation:

Price per sqm. equals 12,300 New Israeli Shekels (NIS);

A deduction of 5% to ground floor apartments;

An addition of 15% to top floor apartments.

floor	floor space	price per sqm	apartment price	units	total
ground floor	79	11,685	923,115	4	3,692,460
floors 4-5	94	12,300	1,150,050	8	9,200,400
top floor	94	14,135	1,321,623	2	2,643,245
total					15,536,105
total vat deducting					13,278,722
total in us\$					\$ 3,688,534

Source: Authors.

The total revenues in the previous information box is presented first in New Israeli Shekels. The total revenue is around 13.2 million NIS, which is equivalent to about US \$3.6 million in 2018 average prices (3.59 NIS to 1 US dollar).

Following the calculation of revenues, the developer would also have to assess the total costs of the proposed project. The table below lists the total costs in a typical TAMA 38 Track 1 project in the City of Beer Sheva.

Figure 24b: Economic Feasibility Test for a TAMA 38 Project in Beer Sheva (continued).

TAMA 38 Economic Feasibility Test (continued), costs estimation:

General indirect costs						
Item	Cost (NIS)		New Israeli Shekels	Total	Total in US\$	
Planning	3.50%	from direct cost	₪ 7,900,000	₪ 276,500	\$ 76,806	
Construction and development taxes	₪ 350	per sqm	1,456	₪ 509,600	\$ 141,556	
Water system connection	₪ 500	per unit	14	₪ 7,000	\$ 1,944	
Electricity network connection	₪ 3,500	per unit	14	₪ 49,000	\$ 13,611	
Engineering management and inspection	3.50%	from direct cost	₪ 7,900,000	₪ 276,500	\$ 76,806	
Legal costs (lawyers etc)	1.00%	from revenue	₪ 15,540,000	₪ 155,400	\$ 43,167	
Apartment owners construction supervisor	₪ 5,000	per month during constructions	12	₪ 60,000	\$ 16,667	
Apartment owners legal costs	₪ 50,000		1	₪ 50,000	\$ 13,889	
Real estate appraisal and inspection	₪ 2,000	per month	36	₪ 72,000	\$ 20,000	
Apartments marketing costs	2.00%	from revenue	₪ 15,540,000	₪ 310,800	\$ 86,333	
Overhead	2.00%	from direct cost	₪ 7,900,000	₪ 158,000	\$ 43,889	
Unexpected costs	8.00%	from direct cost	₪ 7,900,000	₪ 632,000	\$ 175,556	
Purchasing tax	6.00%	from land value	₪ 3,930,316	₪ 235,819	\$ 65,505	
Betterment levy				₪ 0	\$ -	
Parking levy	5	per parking spot required not bu	₪ 10,000	₪ 50,000	\$ 13,889	
Developer's Purchasing Law guarantee	1.00%	from revenue	₪ 13,300,000	₪ 133,000	\$ 36,944	
			total indirect costs	₪ 3,000,000	\$ 800,000	
Direct costs						
Reinforcement & exteior renovation	1			₪ 1,500,000	\$ 416,667	
Elevator installing	1		₪ 200,000	₪ 200,000	\$ 55,556	
Demolition of balconies	43	sqm	₪ 1,800	₪ 77,220	\$ 21,450	
Additional floor area for apartment owners	145	sqm	₪ 3,600	₪ 521,532	\$ 144,870	
Other floor area (Main)	1,311	sqm	₪ 3,600	₪ 4,719,600	\$ 1,311,000	
Cellar readjustment for storage	32	sqm	₪ 1,800	₪ 57,276	\$ 15,910	
Adding service floor area (e.g. baths, hallways)	84	sqm	₪ 3,600	₪ 302,400	\$ 84,000	
Top floor open balcony	171	sqm	₪ 1,300	₪ 222,300	\$ 61,750	
Yard development & gardening	909	sqm	₪ 250	₪ 227,248	\$ 63,124	
Elevator adjustments for current units	12	units	₪ 3,600	₪ 43,200	\$ 12,000	
			total direct cost	₪ 7,900,000	\$ 2,200,000	
				direct and indirect costs	₪ 10,900,000	\$ 3,000,000
Financial costs						
finance	3.00%	from total cost	₪ 10,900,000	₪ 376,050	\$ 104,458	
bank guarantees	1.75%	from total cost	₪ 10,900,000	₪ 190,750	\$ 52,986	
bank fees				₪ 75,210	\$ 20,892	
			total financing costs	₪ 640,000	\$ 180,000	
				total costs	₪ 11,540,000	\$ 3,180,000
Feasibility analysis:						
Conclusion			Total	Total in US\$		
Total revenue including vat			₪ 15,536,105	\$ 4,315,585		
Total revenue VAT deducted			₪ 13,278,722	\$ 3,688,534		
Total costs			₪ 11,540,000	\$ 4,660,000		
Profit			₪ 1,760,000	\$ 695,000		
Developer's profit from costs			15.3%			

Source: Authors.

C. Public Authorities at the Local and National Level

The third interest group involved in TAMA 38 project is public authorities. While it is possible, based on reasonable assumptions and estimations, to quantify land value captured by apartment owners and entrepreneurs, the task is more complicated regarding public authorities. The main benefit of TAMA 38 is seismic reinforcement of buildings in order to protect the safety of residents. Public benefits of TAMA 38 could be measured in lives of people saved, injuries prevented, as well as in the averted cost of rescuing people trapped under the rubble, supplying shelter for people who lost their homes, and repairing or reconstructing buildings that were damaged or ruined.

The public authority also benefits from urban renewal where TAMA 38 projects are executed, although they also have to pay the costs of increased residential density. Thus, the costs of supplying more public services increase, and often exceed the municipal taxes paid by the new residents to the local authority (Ekstein et al. 2014). According to certain estimates, because of the Israeli Local Taxation System, every additional resident costs the municipality at least 2,500 NIS (US \$694) per year (Id.).

The costs of TAMA 38 projects do not stop there. Increasing urban density creates a demand on the local authority to supply more public infrastructure and more space for a range of purposes such as schools, roads, and parks. Nevertheless, the shortage of vacant land and financial resources hinders local authorities from providing these services. For this reason, the allocation of public space in privately owned buildings has been a way to answer these needs (Mualam, Salinger, and Max 2019). This is often exercised in new mixed-use developments, usually in high-rise buildings.

With respect to the allocation of public space in TAMA 38 projects, one could argue that the TAMA imposes externalities on cities, more so by denying them local betterment levies. Because of the growing need to supply public services, infrastructure, and space, some local authorities frown upon TAMA 38 projects. In addition, because of the need to supply more public services, as population grows, currently the cities of Tel Aviv and Bnei Brak, are planning to regulate allocation of public floor space within TAMA 38 projects. The Tel Aviv municipality is planning to require, in some areas, allocation of public floor space in TAMA projects of more than 50 units in the demolition track. Likewise, the city of Bnei Brak is planning to require allocation of public floor space in the ground floor for kindergartens. This could satisfy some of the needs for public space, but on the other hand could make some TAMA 38 projects economically unfeasible.

Another cost for the local authority due to TAMA 38 projects is the loss of betterment levies. The betterment levy is paid to the municipality for property value enhancement as a result of planning interventions. The levy amounts to 50 percent of the value enhancement. In cities with high land value, a betterment levy is expected to bring significant gains to the local authority that could finance public demands. Nevertheless, municipalities have been forced by the central government to forfeit a major portion of their betterment levy in order to make TAMA 38 projects more profitable.

According to section 19(b)(10) of the Building and Planning Law, property improvement as part of a TAMA 38 project is exempted from paying betterment levy, for an addition of up to 2.5 floors. For additions above 2.5 floors, the betterment levy will be 25 percent of the value enhancement (instead of 50 percent). The local authority can decide in addition to exempt additions above 2.5 floors or to charge 12.5 percent instead of 25 percent.

Taking into account the costs and benefits of TAMA 38 for local authorities, and also their power to approve a local statutory plan that sets rules for the implementation of TAMA 38 in their jurisdiction, it is reasonable to assume that different local governments would have different policies and attitudes towards the TAMA. For example, the municipality of Ramat Ha'sharon approved a detailed plan in 2017 which sets the framework for implementing TAMA 38 projects within the city in order to encourage its utilization. The plan grants additional development rights for developers above those allowed in the national TAMA 38 plan for TAMA projects in the demolition track. It also lays out urban renewal objectives it aims to achieve through the encouragement of TAMA 38 projects.

In 2019, the municipality of Tel Aviv initiated local statutory plans for the center of Tel Aviv, divided into 4 quarters. The plan for quarter 3 was approved on January 2019 and set local rules for implementing the national TAMA plan. Tel Aviv's plan applied to residential buildings, except buildings designated for historic preservation. It distinguished between new buildings and additions to existing buildings. In most cases, development rights in the demolition track of the TAMA are higher than those in the non-demolition track, in order to encourage new buildings to be constructed.

As depicted in figure 19, there are quite a few obstacles for implementing TAMA 38 within local governments. In addition, cities may devise local statutory rules that might impede implementation. In particular, the city can limit additional development rights, impose density limitations, and implement stringent requirements for parking spots or for allocating public floorspace within these projects. All of these would significantly increase the cost of the project and impede implementation.

As a result, local authorities have a crucial role in determining the feasibility of TAMA 38 projects. Their position towards TAMA 38 projects is a key factor in land value capture in their jurisdiction.

D. Residents of Neighborhoods Where TAMA 38 Projects Are Implemented

The fourth stakeholder group affected by TAMA 38 projects is the public at large. Residents of the city may enjoy the effect of the new policy or may frown upon it. Living in a city or neighborhood where TAMA 38 projects are executed in significant numbers may bring both positive and negative externalities. Positive externalities stem from urban renewal in the area, as new and renovated buildings are expected to increase the value of surrounding buildings.

On the other hand, negative externalities are expected for surrounding buildings during the construction period, due to noise and pollution. Moreover, taller, denser buildings may also

decrease the value of surrounding buildings if they block views and light and produce noise pollution.

If the denser neighborhood does not have sufficient infrastructure such as roads, parking spots, or sewer systems, and if it lacks sufficient public space, all of the residents of the neighborhood will suffer traffic jams, pollution, and inadequate public services (Tal 2016). Given the high population growth in Israel and the limited supply of land, it is inevitable that cities will become denser. Some of our informants argue that TAMA 38 accelerates this process without allowing for a deliberate and considered planning process (Sharet 2019; Ben-Or 2019).

TAMA 38 does provide value for the public in that the prospect of undergoing renovation might bolster apartment values. Does the fact that a unit is potentially a candidate for a TAMA 38 project increase its value? Real estate appraisers often rely on the “anticipation principle” in real estate valuation, which states that “value is created by the anticipation of benefits to be derived in the future” (Appraisal Institute of Israel 2013, 27). Eligibility for TAMA 38 might affect the market perception due to the anticipation of future benefit. Potential owners of units eligible for TAMA 38 projects could potentially enhance their value with no direct investment, but will the market pay a premium for that potential? Can we measure this premium?

In research initiated by the National Board for Economics, it was found that apartments eligible for TAMA 38 sell for 10 percent above sale price of apartments not eligible for TAMA 38. In the city of Tel Aviv, the increase was found to be higher, above 20 percent (Raz-Dror 2016). These findings can be read in line with similar studies carried out elsewhere. For example, Bun Song, Eui-Chul and Yong Hyun (2005) found in the case of apartment complexes in Seoul a decrease in value due to depreciation, in a 27 years of age building, was approximately 45–53 percent of the initial value, while an anticipation for redevelopment increases the price of apartments by 28–32 percent.

Thus, the option to redevelop is embodied in the market value of housing units eligible for TAMA 38. Nevertheless, measuring their value is difficult, because the control group, if currently in the comparable area, may also be affected by the possibility of redevelopment. If significant planning steps were undertaken towards the realization of TAMA 38 project, benefits derived in the future would be more certain, and consequently the increase in value may be more substantial.

How Much Land Value Has Been Captured so Far?

In the following section we will try to evaluate how much land value has been captured by TAMA 38. The following estimations measure land value capture for apartment owners implementing a TAMA 38 project and for developers executing TAMA 38 projects. The following does not include private and social costs and benefits for citizens living in neighborhoods where TAMA 38 is significantly realized.

As mentioned above, measuring land value captured by public authorities is complex, as the costs and benefits include a range of public goods.

We therefore look at the cost of seismic reinforcement which developers undertake along with the exterior renovation of the building. Under the framework of TAMA 38, the developer actually carries out lifesaving works, thereby relieving government authorities from carrying out these works themselves. The underlying normative assumption here is that before 1980, government approved the construction of buildings that cannot withstand earthquake damage. As a result, it bears a responsibility for the wellbeing of their occupants. By reinforcing buildings against earthquakes, the developer saves government money and carries works on its behalf. Indeed, it is unclear how much the government would have to pay, had it carried out these works by itself. However, it is possible to quantify the costs of such structural reinforcement work. Based on available data from select projects, we estimate this cost to be 1,500,000 NIS (approximately US \$415,000) per building.

According to the government’s Authority for Urban Renewal, 2,212 TAMA 38 planning permissions were granted between 2005 and 2017. These permissions were granted for 44,432 units, a figure which includes existing plus added flats. The following table summarizes the data differentiating between TAMA 1 and TAMA 2 projects.

Due to missing data, it is estimated that the total number of units added is approximately 2,000 units higher than the reported number. Therefore, we estimate a total of approximately 46,500 housing units were granted permission to undergo TAMA 38.

We estimate that the total land value captured by public authorities, measured in terms of the costs of reinforcing 2,212 buildings, is 3,318,000,000 NIS (US \$918,000,000). This sum is based on an average cost of 1,500,000 NIS for structurally reinforcing one building (multiplied by 2,212 buildings already undergoing TAMA 38 renovations).

Table 6: Total TAMA 38 Planning Permissions, 2005–2017

	Tama 1		Tama 2		Total	
	Units	buildings	Units	Buildings	Units	buildings
Planning applications	69,780	3,283	47,422	2,270	117,202	5,553
Planning permissions	28,832	1,402	15,600	810	44,432	2,212
Number of units added	10,962		9,912		20,874	
Number of units before	17,870		5,688		23,558	
Multiplier	1.61		2.74		1.89	

Source: The Urban Renewal Authority of Israel (2018).

Table 6 combines data from the report of the Israel’s Urban Renewal Authority and from data obtained directly from municipalities. Table 6 and table 7 show similar estimates of the total number of housing units and for planning permissions sorted by TAMA track.

Table 7 provides more information per city, which allows more accurate calculations, and depicts the total number of housing units—current and new—with no distinction between them.

Because existing data from government authorities is incomplete, one needs to calculate the multiplier for each city in order to estimate land value captured through TAMA 38 projects. Below, we explain how the multiplier in each city is determined.

Table 7: TAMA 38 Projects, sorted by cities, 2005–2017.

District	City	Number of planning applications	Number of planning permissions Tama 1	Number of planning permissions Tama 2	Number of planning permissions total	Total units in planning permissions	Average sales price per sqm of residential floorspace in NIS	Average new apartment price in NIS (2012 prices)	Seismic risk (1-low ; 9-high)	Peripherality cluster (1-peripheral ; 10-central)	Socio-economic metric (1-low ; 10-high)
South	Ashdod		87	1	88	3272	17,156	1,444,419	2	7	5
South	Beer Sheva	4	0	1	1	20	11,787	1,063,088	2	5	5
South	Eilat	1	0	0	0	0	13,241	1,113,036	8	1	6
South	Ashkelon	0	0	0	0	0	12,917	968,924	2	5	5
South	Kiriat Malachi	1			1		11,508	819,667	2	5	3
Haifa	Haifa	927	162	69	231	2578	14,566	1,621,251	6	6	7
Haifa	Hadera		2	26	28	556	13,607	1,170,214	3	6	6
Haifa	Kiriat Atta		5	32	37	535	10,864	1,135,188	6	8	5
Haifa	Kiriat Bialik		21	18	39	520	12,213	1,194,195	6	5	6
Haifa	Kiriat Motzkin		8	3	11	244	13,121	1,319,589	6	5	6
Haifa	Kiriat Yam		13	6	19	235	11,967	1,138,127	6	5	5
Haifa	Zichron Yaacov		5	1	6	160	14,662	1,535,066	3	5	8
Haifa	Kiriat Tivon		3	0	3	61	15,851	1,838,036	6	5	8
Haifa	Tirat Hakarmel		1	1	2	37	10,587	1,080,771	5	5	4
Haifa	Pardes hana Carcur		0	2	2	21	13,460	1,273,240	3	5	6
Haifa	Nesher		0	1	1	8	13,118	1,214,216	6	5	6
Jerusalem	Jerusalem	248	68	22	90	1526	23,525	2,047,671	4	9	3
Mercaz	Rishon Le'tzion		110	2	112	2524	20,380	1,849,943	2	9	7
Mercaz	Ra'anana	182	106	2	108	2249	23,034	2,051,172	2	8	8
Mercaz	Petach Tikva		52	30	82	1746	19,242	1,645,449	2	9	7
Mercaz	Natanya		22	31	53	1183	18,095	1,654,780	3	7	5
Mercaz	Kfar Saba	94	31	4	35	871	21,114	1,910,991	2	8	8
Mercaz	Hod Hasharon	54	27	0	27	648	19,630	1,937,054	2	8	8
Mercaz	Yavne	13	11	0	11	349	16,190	1,378,329	2	7	6
Mercaz	Rehovot		8	10	18	316	17,832	1,442,493	2	8	7
Mercaz	Ness Tziona		8	2	10	244	21,687	1,839,578	2	8	7
Mercaz	Yehud-Monson		5	0	5	124	19,999	1,594,327	2	8	7
Mercaz	Lod	2			2		14,364	1,030,665	2	7	4
North	Nahariya		14	32	46	635	11,368	1,092,703	5	4	6
North	Tiberias	0	7	1	8	81	8,977	798,257	9	3	4
North	Acre	14	3	0	3	49	10,478	1,101,133	5	4	4
North	Afula		1	1	2	7	8,043	799,874	6	5	5
North	Beit Shean	0	0	0	0	0	7,292	689,400	9	3	4
North	Kiriat Shmona	1	0	0	0	0	7,257	752,906	9	2	5
North	Migdal Ha'emek	0	0	0	0	0	9,013	859,658	6	5	4
North	Nazareith illit	0	0	0	0	0	9,303	597,688	6	5	5
North	Zafed	0	0	0	0	0	9,650	874,711	9	3	2
Tel Aviv Metro	Ramat Gan	1076	146	208	354	8493	25,665	1,750,622	2	10	8
Tel Aviv Metro	Tel Aviv	1896	193	99	292	4702	39,546	2,548,570	2	10	8
Tel Aviv Metro	Hertzeliya	406	113	19	132	2185	24,591	1,980,744	2	8	8
Tel Aviv Metro	Holon		50	45	95	1795	21,598	1,854,388	2	9	6
Tel Aviv Metro	Bat Yam	299	60	6	66	1664	22,151	1,777,425	2	9	5
Tel Aviv Metro	Bnei Brak		6	101	107	1439	23,825	1,343,966	2	10	3
Tel Aviv Metro	Givataim	254	26	37	63	1145	30,668	2,300,738	2	10	8
Tel Aviv Metro	Kiriat Ono		15	4	19	753	23,966	2,099,611	2	9	8
Tel Aviv Metro	Ramat Ha'sharin	86	20	4	24	541	26,655	2,630,244	2	8	9
Tel Aviv Metro	Givat Shmuel		1	0	1	26	21,496	1,078,095	2	10	8
Tel Aviv Metro	Dr Yehuda	1	1	0	1		18,798	1,604,559	2	8	5
Total		5559	1,411	821	2,235	43,542					
Average							16,795	1,434,310	4	7	6

Source: Ministry of Construction & Housing Data; Madlan; Central Bureaus of Statistics; & Personal Communication with municipalities.

Table 7 Legend:

- **Peripherality cluster:** Israel's Central Bureau of Statistics classifies local authorities according to their geographic location, closeness to the Tel Aviv metropolitan area, and closeness to population centers with 1 being the most peripheral and 10 being the most central.
- **Socioeconomic metric:** Israel's Central Bureau of Statistics classifies local authorities based on attributes such as demographics, education, employment, and quality of life indicators, with 1 being an area at the lowest socioeconomic level, and 10 being an area at the highest socioeconomic level.
- **Seismic risk:** The main objective of the national plan is the reinforcement of buildings in order to improve their resilience against earthquakes. According to this priority, areas with higher seismic risk should be prioritized for TAMA 38 projects.

TAMA 38, Track 2 Projects (Demolition Track)'

Figure 25: Calculation of Multiplier and Value Capture in TAMA 38, Track 2 Projects

Let:
n = total number of units (current and new);
a = total number of current units (apartment owners' units);
e = total number of new units (developers' for-sale units) $\rightarrow e = n - a$;
b = the total building costs, direct and indirect, per new unit;
p = the apartment price excluding VAT;
r = the developer's profit;
 $R = 1 + r$
c = additional costs ascribed to current housing units (e.g. rent paid by developer to temporarily relocate tenant during the time of construction, etc.)
m = the multiplier = n / a

✓ The total costs incurred by the developer are: $b * n + c * a$;
✓ Adding the developer's profit, total revenues are: $(b * n + c * a) * R$;
✓ Dividing the total revenue by the price per housing unit will present the number of new housing units, which can be expressed as: $n - a$.

Consequently:

$$((b * n + c * a) * R) / p = n - a$$
$$a = (n * p - b * n * R) / (p + c * R)$$

We assume:

- ✓ $R = 1.18$, which equals a developer's profit of 18%
- ✓ $c = 0.15 * b$
- ✓ b – is estimated according to real estate practice and data on construction costs, differentiating between building cost in the center of Israel and building cost in the periphery which is expected to be significantly lower.
- ✓ p – we look at apartment prices in 2018. We use data on average price per sqm in each city (source: www.madlan.co.il). This is calculated as the ratio of the apartment price to the apartment area, as it was reported in the Israeli tax authority database which includes approximate data on sale prices.
- ✓ We assume the average size of an apartment in TAMA Track 2 projects is approximately 100 sqm.
- ✓ We deduct VAT from the apartment price, as we are interested in developers' profits.

Source: Authors.

After calculating how many current housing units (flats) and new units there are for each city and calculating the multiplier, we estimate a land value capture potential for a developer as 18 percent profit of total costs (Source: Authors).

In order to estimate land value captured for apartment owners, we assume that on average each apartment enjoys the following enhancements following TAMA 38:

- A new apartment in a new building reinforced against earthquakes with an elevator and a parking spot reflects value enhancement of approximately 20 percent.

- Move one floor up from the current location; additional floor area of 12 square meters; and an additional open balcony of 6 sqm, reflecting a value enhancement of approximately 20 percent.

Taking into account the increased density in the building, which can negatively affect the price, we conclude that following a TAMA development, the total value enhancement compared with the value of an existing apartment amounts to approximately 35 percent.

The results for TAMA Track 2 projects and land value capture by developers and apartment owners are reported in the Table 7.

From the foregoing analysis, the average housing multiplier for all of Israel, calculated as the ratio of total units to the number of existing units, is 2.62. The finding in this regard corresponds with similar data about the multiplier based on figures disseminated by the Urban Renewal Authority reports, shown in Table 5 for TAMA 2 projects (=2.74).

Notably, the multiplier is higher in peripheral cities, where land value is low, than for cities in the center of Israel, especially in the Tel Aviv metropolitan area. The calculation leads to the following conclusion:

- The total land value captured by developers amounts to **2,411,700,000 NIS**, (approximately US \$667,200,000).
- The total land value captured by apartment owners amounts to **3,820,000,000 NIS** (approximately US \$1,056,800,000).

These calculations show that apartment owners capture more land value than developers. While developers seek a certain level of profit, apartment owners enjoy a significant premium to their apartment price, especially in the center of Israel, where most TAMA 38 projects have been carried out so far.

Table 8: Multiplier and Land Value Capture for TAMA 38-Track 2, sorted by cities.

District	City	Building cost per new unit in nis	Average price per new unit in NIS	Total units	Existing units	New units	Multiplier	Land value capture by developers (in NIS)	Land value capture by private owners (in NIS)
South	Ashdod	750,000	1,715,600	77	28	49	2.75	9,289,701	12,450,624
South	Beer Sheva	650,000	1,178,700	20	4	16	4.67	2,046,766	1,309,140
Haifa	Haifa	750,000	1,456,600	793	207	586	3.83	94,280,154	78,242,328
Haifa	Hadera	700,000	1,360,700	485	127	358	3.82	53,822,358	44,803,854
Haifa	Kiriat Atta	600,000	1,086,400	515	110	405	4.69	48,642,572	30,917,065
Haifa	Kiriat Bialik	600,000	1,221,300	201	59	142	3.42	19,202,460	18,585,652
Haifa	Kiriat Motzkin	650,000	1,312,100	30	9	21	3.49	3,102,479	2,925,405
Haifa	Kiriat Yam	650,000	1,196,700	57	13	44	4.45	5,842,290	3,975,914
Haifa	Zichron Yaacov	750,000	1,466,200	12	3	9	3.76	1,427,586	1,211,748
Haifa	Kiriat Tivon	750,000	1,585,100	0	-	-		-	-
Haifa	Tirat Hakarmel	600,000	1,058,700	32	6	26	5.14	3,014,357	1,710,246
Haifa	Pardes hana Garcur	750,000	1,346,000	21	4	17	4.83	2,477,088	1,515,855
Haifa	Nesher	650,000	1,311,800	8	2	6	3.49	827,310	779,527
Jerusalem	Jerusalem	950,000	2,352,500	297	121	176	2.45	45,676,000	73,965,965
Mercaz	Rishon Le'tzion	950,000	2,038,000	29	9	20	3.08	4,407,456	4,980,857
Mercaz	Ra'anana	950,000	2,303,400	41	16	25	2.52	6,295,085	9,713,174
Mercaz	Petach Tikva	900,000	1,924,200	542	175	367	3.10	78,015,037	87,327,205
Mercaz	Natanya	900,000	1,809,500	578	164	414	3.52	82,733,735	77,026,201
Mercaz	Kfar Saba	900,000	2,111,400	139	53	86	2.64	20,165,432	28,771,385
Mercaz	Hod Hasharon	900,000	1,963,000	0	-	-		-	-
Mercaz	Yavne	850,000	1,619,000	0	-	-		-	-
Mercaz	Rehovot	900,000	1,793,200	117	33	84	3.59	16,732,936	15,130,704
Mercaz	Ness Tziona	900,000	2,168,700	17	7	10	2.54	2,471,573	3,758,918
Mercaz	Yehud-Monson	800,000	1,999,900	0	-	-		-	-
North	Nahariya	600,000	1,136,800	417	102	315	4.09	39,566,353	30,060,168
North	Tiberias	500,000	897,700	11	2	9	4.83	865,051	530,306
North	Acre	500,000	1,047,800	0	-	-		-	-
North	Afula	475,000	804,300	7				507,203	-
Tel Aviv Metro	Ramat Gan	1,050,000	2,566,500	5845	2,345	3,500	2.49	992,528,185	1,560,278,458
Tel Aviv Metro	Tel Aviv	1,350,000	3,954,600	1475	728	747	2.03	326,248,290	746,742,429
Tel Aviv Metro	Hertzeliya	1,050,000	2,459,100	354	134	220	2.65	59,907,696	85,120,208
Tel Aviv Metro	Holon	900,000	2,159,800	655	256	399	2.56	95,197,199	143,390,393
Tel Aviv Metro	Bat Yam	900,000	2,215,100	208	84	124	2.47	30,290,634	48,375,804
Tel Aviv Metro	Bnei Brak	900,000	2,382,500	1349	599	750	2.25	197,529,389	369,764,115
Tel Aviv Metro	Givataim	1,100,000	3,066,800	731	343	388	2.13	131,305,009	273,114,512
Tel Aviv Metro	Kiriat Ono	950,000	2,396,600	116	49	67	2.39	17,865,155	30,155,800
Tel Aviv Metro	Ramat Ha'sharin	1,050,000	2,665,500	114	48	66	2.37	19,414,441	33,225,282
Tel Aviv Metro	Givat Shmuel	900,000	2,149,600	0	-	-		-	-
Total				15,293	5,840	9,446		2,411,696,983	3,819,859,239
Average			1,823,194.74				2.62	412,927	654,030

Source: 'Total units' taken from Urban Renewal Authority, 2018 report; multiplier calculated by authors; average price per new unit is based on Madlan.co.il data on sale prices per sqm multiplied by 100 sqm per apartment excluding VAT; total value capture for developers is calculated per city, based on the number of new housing units multiplied by developer's profit on investment; total value capture by owners is based on an estimate of 35 percent value uplift per existing apartment.

In the bottom (“average” row) of Table 8, we calculate land value captured per existing housing unit:

- For developers, it is 413,000 NIS (US \$114,250)
- For apartment owners it is 654,000 NIS, (US \$181,000)
- Public land value capture as defined above, calculated per existing housing unit, amounts to 208,000 NIS (US \$57,550)⁶

We then calculate the average weighted price of an existing unit in the sample, deducting 35 percent of the price of a new unit and multiplying by the number of existing units for each city. The average price is 1,870,000 NIS (about US \$517,000). Hence, land value captured by developers is 22 percent of the value of an existing housing unit, for apartment owners it is 35 percent of the value of an existing unit, and for public authorities it amounts to 11 percent of the value of a housing unit. The total land value captured is 57 percent, considering that the 11 percent value captured by public authorities is reflected in the value captured by apartment owners.

TAMA 38, Track 1 Projects (Non-Demolition Track)

We take a different approach in order to assess the captured value in Track 1 projects. We estimate that the housing multiplier in Track 1 projects is somewhere between 1.5 for cities with the highest demand, and 2 in the most peripheral cities. We base these figures on the assumption that, from a physical and architectural point of view, renovation of an existing building can, at maximum, double the number of units. Building costs for the new added units are estimated as in demolition-track projects, and costs for renovating and expanding existing housing units is calculated as 30 percent of the cost of a newly added unit (i.e. a new flat built for sale by the developer).

Both costs for new and existing housing units are pegged to the costs of structural reinforcement and renovation of the existing building.

The value enhancement for current apartments is estimated to be 16 percent. This stands in contrast to the value enhancement of 35 percent in TAMA 2 projects, where entirely new apartments are built, therefore resulting in greater value uplift.

In TAMA Track 1, the attributes reflecting value enhancement are the following:

- Reinforcement and renovation of the building, while adding an elevator
- No added parking spaces
- An addition of 12sqm (on average) of floor area per apartment, and a balcony of 6 sqm per apartment

⁶ This figure is based on 810 planning permits granted for 810 buildings, times the price of structural reinforcement per building (1,500,000 NIS), divided by the total estimated number existing of housing units (5,840) in TAMA 38-Track 2 projects.

It is also assumed that the price of new apartments assigned to the developer are 8 percent cheaper than the price of new apartments in TAMA 38 Track 2 projects due to limitations, such as the absence of a parking space or other amenities available in new buildings. The results of the TAMA Track 1 multiplier and land value capture by developers and apartment owners for each city are reported in Table 9 below.

As we can see from the results, the average multiplier in TAMA Track 1 for the whole country, calculated as the number of total housing units divided by the number of existing (pre-TAMA) units, is 1.73, close to the multiplier for TAMA 38-1 projects which can be calculated based on reports by the Israeli Urban Renewal Authority (see in Table 5 for TAMA Track 1 projects, where multiplier = 1.61).

Consequently;

- The total land value captured by developers in TAMA Track 1 is 2,423,700,000 NIS (approximately US \$670,512,000)
- The total land value captured by apartment owners is 4,572,225,000 NIS (approximately US \$1,264,900,000)

On the “average” row in Table 9, we calculate land value captured per existing unit:

- For developers, amounts to 148,650 NIS, (US \$41,120) per unit
- Apartment owners can capture up to 280,400 NIS (US \$77,570)
- Public value (as defined above), which is captured by government, calculated per existing housing unit, amounts to 129,000 NIS, (US \$35,700). Thus, the value captured per unit by public authorities is lower than the value captured in TAMA Track 2 projects. This is because, on average, there are significantly more existing units in TAMA 38-1 projects than in TAMA 38-2 projects. This may imply that as the number of units in the building is higher, it is more likely that a TAMA 38-1 project will be initiated, than TAMA 38 Track 2 project.

Table 9: Multiplier and Land Value Capture for TAMA Track 1

District	City	Total units	Multiplier	Existing units	New units	Building cost per new unit in nis	Average price per new unit in nis	Average price per existing unit in nis	Land value capture by developers (in NIS)	Land value capture by private owners (in NIS)
South	Ashdod	3,195	1.8	1,775	1,420	750,000	1,578,352	1,492,572	223,379,237	365,422,800
South	Beer Sheva	-	2	-	-	650,000	1,084,404	1,025,469		
Haifa	Haifa	1,785	1.9	939	846	750,000	1,340,072	1,267,242	128,978,591	164,212,484
Haifa	Hadera	71	2	36	36	700,000	1,251,844	1,183,809	4,927,881	5,796,582
Haifa	Kiriat Atta	20	2	10	10	600,000	999,488	945,168	1,189,831	1,303,680
Haifa	Kiriat Bialik	319	2	160	160	600,000	1,123,596	1,062,531	18,977,797	23,375,682
Haifa	Kiriat Motzkin	214	2	107	107	650,000	1,207,132	1,141,527	13,792,119	16,847,364
Haifa	Kiriat Yam	178	2	89	89	650,000	1,100,964	1,041,129	11,471,949	12,780,756
Haifa	Zichron Yaacov	148	1.9	78	70	750,000	1,348,904	1,275,594	10,694,023	13,705,112
Haifa	Kiriat Tivon	61	1.9	32	29	750,000	1,458,292	1,379,037	4,407,672	6,106,806
Haifa	Tirat Hakarmel	5	2	3	3	600,000	974,004	921,069	297,458	317,610
Haifa	Pardes hana Carcur	-	2	-	-	750,000	1,238,320	1,171,020		
Haifa	Nesher	-	2	-	-	650,000	1,206,856	1,141,266		
Jerusalem	Jerusalem	1,229	1.7	723	506	950,000	2,164,300	2,046,675	104,765,204	204,086,294
Mercaz	Rishon Le'tzion	2,495	1.8	1,386	1,109	950,000	1,874,960	1,773,060	220,955,508	338,987,333
Mercaz	Ra'anana	2,208	1.7	1,299	909	950,000	2,119,128	2,003,958	188,219,342	359,005,214
Mercaz	Petach Tikva	1,204	1.8	669	535	900,000	1,770,264	1,674,054	101,013,559	154,449,120
Mercaz	Natanya	605	1.8	336	269	900,000	1,664,740	1,574,265	50,758,475	72,983,167
Mercaz	Kfar Saba	732	1.7	431	301	900,000	1,942,488	1,836,918	59,114,656	109,097,280
Mercaz	Hod Hasharon	648	1.8	360	288	900,000	1,805,960	1,707,810	54,366,102	84,801,600
Mercaz	Yavne	349	1.9	184	165	850,000	1,489,480	1,408,530	28,580,018	35,686,168
Mercaz	Rehovot	199	1.8	111	88	900,000	1,649,744	1,560,084	16,695,763	23,789,787
Mercaz	Ness Tziona	227	1.7	134	93	900,000	1,995,204	1,886,769	18,332,004	34,750,228
Mercaz	Yehud-Monson	124	1.9	65	59	800,000	1,839,908	1,739,913	9,557,181	15,662,375
North	Nahariya	218	2	109	109	600,000	1,045,856	989,016	12,969,153	14,869,344
North	Tiberias	70	2	35	35	500,000	825,884	780,999	3,470,339	3,770,340
North	Acre	49	2	25	25	500,000	963,976	911,586	2,429,237	3,080,532
North	Afula	-	2	-	-	475,000	739,956	699,741		
Tel Aviv Metro	Ramat Gan	2,648	1.7	1,558	1,090	1,050,000	2,361,180	2,232,855	249,487,537	479,724,141
Tel Aviv Metro	Tel Aviv	3,227	1.5	2,151	1,076	1,350,000	3,638,232	3,440,502	354,423,051	1,020,919,536
Tel Aviv Metro	Hertzeliya	1,831	1.7	1,077	754	1,050,000	2,262,372	2,139,417	172,511,964	317,831,442
Tel Aviv Metro	Holon	1,140	1.75	651	489	900,000	1,987,016	1,879,026	93,905,085	168,834,651
Tel Aviv Metro	Bat Yam	1,456	1.75	832	624	900,000	2,037,892	1,927,137	119,934,915	221,155,584
Tel Aviv Metro	Bnei Brak	90	1.75	51	39	900,000	2,191,900	2,072,775	7,413,559	14,703,429
Tel Aviv Metro	Bivataim	414	1.65	251	163	1,100,000	2,821,456	2,668,116	39,996,610	92,338,560
Tel Aviv Metro	Kiriat Ono	637	1.7	375	262	950,000	2,204,372	2,085,042	54,300,598	107,762,414
Tel Aviv Metro	Ramat Ha'sharin	427	1.7	251	176	1,050,000	2,452,260	2,318,985	40,230,808	80,341,306
Tel Aviv Metro	Bivat Shmuel	26	1.8	14	12	900,000	1,977,632	1,870,152	2,181,356	3,725,973
Total		28,249		16,305	11,944				2,423,728,581	4,572,224,695
Average			1.73				1,677,339	1,586,179	148,648	280,417

Source: Authors.

We calculate the average weighted price of an existing unit in the sample, deducting 16 percent of the price of a new unit and multiplying by the number of existing units for each city. The average price for a housing unit in TAMA 38-1 is 1,752,600 NIS (\$485,000). Hence, land value captured by developers is 8.5 percent of the value of an existing unit, apartment owners capture 16 percent of the value of an existing unit, and public authorities capture about 7.4 percent. The

total land value captured is 24.5 percent, considering that the 7.4 percent value captured by public authorities is reflected in the value captured by apartment owners.

Table 10 summarizes the results for TAMA 38 Track 1 and TAMA 38 Track 2 projects:

Table 10: Land Value Captured in TAMA 38 Projects

TAMA	Land value captured by			
	Developers	Apartment owners	Total	Public authority
Track 1	2,423,730,000	4,572,225,000	6,995,955,000	2,103,000,000
Track 2	2,411,700,000	3,820,000,000	6,231,700,000	1,215,000,000
Total in Israeli Shekels	4,835,430,000	8,392,225,000	13,227,655,000	3,318,000,000
Total in US \$	\$ 1,337,700,000	\$ 2,321,700,000	\$ 3,659,400,000	\$ 917,918,500
Total existing units	22,145	22,145	22,145	22,145
Total capture per existing unit (NIS)	218,350	379,000	597,320	149,830
Total per existing unit in US \$	\$ 60,400	\$ 104,840	\$ 165,250	\$ 41,450
Average existing unit price	1,840,000	1,840,000	1,840,000	1,840,000
Percentage value captured per existing unit	11.90%	20.60%	32.50%	8.15%

Source: Authors.

It can be seen from the results that the land value capture adds up to 32.5 percent of the price of an average unit. The value captured is shared by developers, who capture 11.97 percent, apartment owners, who capture 20.6 percent, and the public authority, who captures 8.15 percent. More importantly, the analysis shows that the total sum of captured value amounts to more than 13 billion Israeli Shekels, the equivalent of approximately US\$ **3.65 billion**. Out of this sum, public authorities have captured approximately US\$ **917 million** (notably, the sum captured by public authorities reflects, in fact, a portion of the value captured by apartment owners).

What is the potential for land value capture within TAMA 38? According to a report prepared for the Ministry of Construction and Housing, as of the year 2008, 771,300 housing units out of a total of 2,087,400 units in Israel (approximately 37 percent) were at risk in case of an earthquake and are potentially eligible to apply for TAMA 38 (Ministry of Construction and Housing 2011).

Table 11: Housing Units Eligible for TAMA 38 Development

City / District	Existing units total
North	37,900
Acre & Nahariya	15,300
Beit Shean	2,700
Haifa Metropolis	105,000
Hadera	9,000
Tel Aviv & Centre	408,800
Jerusalem & surrounding	106,500
Ashdod & Ashkelon	27,500
Beer Sheva & South	51,800
Eilat	6,800
Total units	771,300

Source: Ministry of Construction and Housing, (2011)

Table 11 shows the distribution of TAMA 38 eligible housing units. We use the same method to calculate value captured for developers and apartment owners.

According to the data we obtained from the Urban Renewal Authority, to date, 63 percent of the initiated projects were TAMA Track 1 projects. Nevertheless, we believe the percentage of TAMA Track 2 projects will slightly increase in the future. Although TAMA Track 2 projects are more difficult to implement, these projects (involving total demolition of the old building) seem to be gaining more support by local governments and are more economically feasible. Thus, overall, we assume the share of TAMA 38 Track 1 projects will be 60 percent and the share of TAMA 38 Track 2 projects will be 40 percent.

We calculated the multiplier for TAMA Track 2 projects that would ensure feasibility and assumed that local authorities would permit such multipliers. Tables 12 and 13 summarize the results for TAMA 1 and TAMA 2 projects.

Table 12: Potential Land Value Captured for TAMA 1 Projects

City / District	Potential Units eligible for TAMA 38 (existing units)	Existing units Tamal	Multiplier	New units	Total units	Building cost per new unit	Average price per existing unit	Land value capture entrepreneurs	Land value capture private owners
North	37,900	22740	2	22,740	45,480	550,000	900,000	2,861,771,186	2,822,896,552
Acre & Nahariya	15,300	9180	2	9,180	18,360	550,000	950,000	1,155,279,661	1,202,896,552
Beit Shean	2,700	1620	2	1,620	3,240	500,000	610,000	185,338,983	136,303,448
Haifa Metropolis	105,000	63000	1.9	56,700	119,700	650,000	1,150,000	8,745,254,237	9,993,103,448
Hadera	9,000	5400	2	5,400	10,800	700,000	1,180,000	864,915,254	878,896,552
Tel Aviv & Centre	408,800	245280	1.7	171,696	416,976	1,000,000	2,300,000	44,898,711,864	77,812,965,517
Jerusalem & surrounding	106,500	63900	1.8	51,120	115,020	850,000	1,600,000	10,770,940,678	14,102,068,966
Ashdod & Ashkelon	27,500	16500	1.9	14,850	31,350	700,000	1,330,000	2,466,610,169	3,026,896,552
Beer Sheva & South	51,800	31080	2	31,080	62,160	600,000	860,000	4,266,915,254	3,686,731,034
Eilat	6,800	4080	2	4,080	8,160	600,000	1,190,000	560,135,593	669,682,759
Total units	771,300	462,780	1.80	368,466	831,246			76,775,872,881	114,332,441,379
							1,207,000	165,901	247,056

Source: Authors.

Table 13: Potential Land Value Captured for TAMA 2 Projects

City / District	Existing units total	Existing units Tama2	Multiplier	New units	Total units	Building cost per new unit	Average price per new unit	Land value capture entrepreneurs	Land value capture private owners
North	37,900	15160	4.8	57,608	72,768	550,000	1,035,000	6,582,073,729	4,067,933,333.33
Acre & Nahariya	15,300	6120	4.75	22,950	29,070	550,000	1,090,000	2,631,470,339	1,729,466,666.67
Beit Shean	2,700	1080	5	4,320	5,400	500,000	700,000	442,754,237	196,000,000.00
Haifa Metropolis	105,000	42000	3.5	105,000	147,000	650,000	1,320,000	16,137,076,271	14,373,333,333.33
Hadera	9,000	3600	3.4	8,640	12,240	700,000	1,360,000	1,451,135,593	1,269,333,333.33
Tel Aviv & Centre	408,800	163520	2.3	212,576	376,096	1,000,000	2,650,000	66,724,474,576	112,344,296,296.30
Jerusalem & surrounding	106,500	42600	3	85,200	127,800	850,000	1,840,000	18,642,012,712	20,321,777,777.78
Ashdod & Ashkelon	27,500	11000	3.2	24,200	35,200	700,000	1,530,000	4,199,110,169	4,363,333,333.33
Beer Sheva & South	51,800	20720	4.9	80,808	101,528	600,000	990,000	10,003,545,763	5,318,133,333.33
Eilat	6,800	2720	3.4	6,528	9,248	600,000	1,370,000	939,783,051	966,103,703.70
Total units	771,300	308,520		607,830	916,350			127,753,436,441	164,949,711,111
							1,388,500	414,085	534,648

Source: Authors.

In addition, the total potential land value captured by the public authority, assuming 10 unit per building on average, is 115,695,000,000 NIS, (\$32,006,800,000)⁷.

Table 14 summarizes the results for potential land value capture in TAMA Track 1 and TAMA Track 2 projects.

⁷ The sum is calculated as follows: 771,300 potential housing units in need for structural reinforcements, divided by 10 (assuming an average of 10 apartments per building) = 77,130 buildings eligible for renovations. This figure is multiplied by 1.5 million NIS (average estimated cost for structural reinforcement). Notably, a portion of this sum (i.e. \$32,006,800,000) includes value already captured by existing projects.

Table 14: Potential Land Value Captured in TAMA 38 Projects

TAMA	Potential land value captured by			
	Developers	Apartment owners	Total	Public authority
Track 1	76,775,870,000	114,332,400,000	191,108,270,000	
Track 2	127,753,450,000	164,950,000,000	292,703,450,000	
Total in Israeli Shekels	204,529,320,000	279,282,400,000	483,811,720,000	115,695,000,000
Total in US \$	\$ 56,582,650,000	\$ 77,262,950,000	\$ 133,845,600,000	\$ 32,006,800,000
Total existing units	771,300	771,300	771,300	771,300
Total capture per existing unit (NIS)	265,200	362,100	627,300	150,000
Total per existing unit in US \$	\$ 73,360	\$ 100,170	\$ 173,530	\$ 41,500
Average existing unit price	1,540,000	1,540,000	1,540,000	1,540,000
Percentage value captured per existing unit	17.20%	23.50%	40.70%	9.75%

Source: Authors.

The analysis shows that the TAMA 38 has an enormous potential in terms of value capture, as it can capture up to **US\$ 133.8 billion**. Out of this sum, the public can capture more than **US\$ 32 billion**.

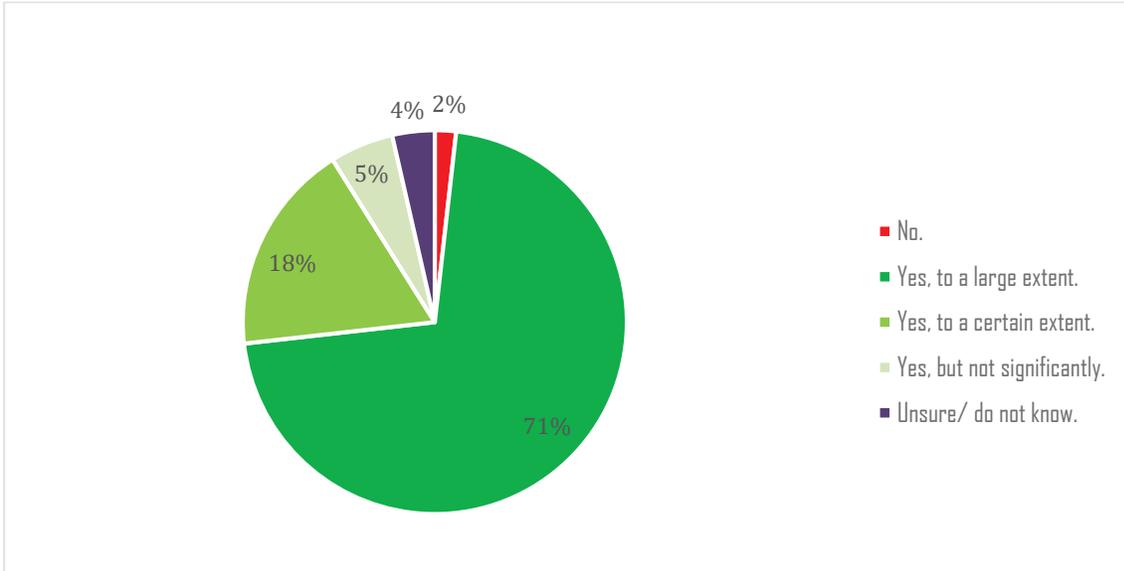
The analysis suggests that the potential land value capture amounts to 40.7 percent of the price of an average housing unit which can undergo a TAMA 38 project. The value captured is shared by developers (17.2 percent) and apartment owners (23.5 percent) and reflects 9.75 percent of value captured by the public authority.

In cities and neighborhoods where land prices are high, value capture⁸ has an even greater potential. For example, apartment owners may enjoy significant value uplifts of 30–35 percent of the value of their apartments. Indeed, the survey we conducted among apartment owners indicates that the value of their asset has increased significantly (Figure 26), and that despite the difficulties involved in pursuing TAMA 38 projects, most apartment owners would certainly go through this process again (see Figure 27).

Specifically, when asked: “to the best of your knowledge, has the value of your apartment increased as result of the TAMA project?” 71 percent of respondents, replied that the value of their property has enjoyed value uplift to a large extent. In addition, 54 percent of respondents would definitely go through a TAMA 38 project if given a chance. This corresponds with the economic analysis showing a large increase in apartment value, especially in TAMA Track 2 projects.

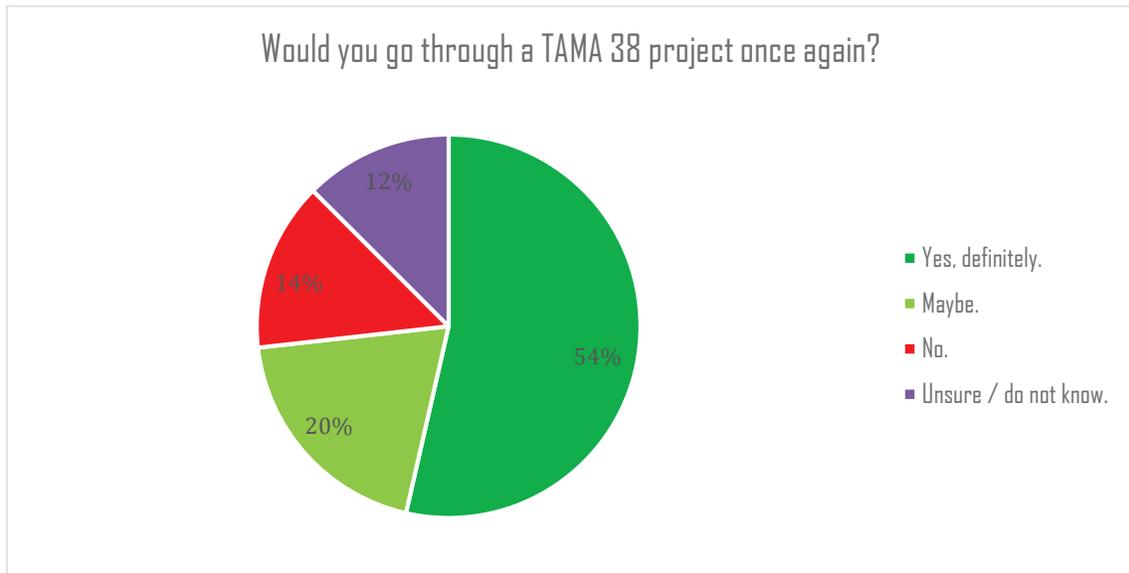
⁸ Especially in TAMA 38 - Track 2 (demolition).

Figure 26: Perception of Apartment Owners Concerning Value Uplift



Source: Authors.

Figure 27: Would Landowners Undertake a TAMA 38 Development Once Again?



Source: Authors.

Where Was Land Value Captured? Analysis of Different Socioeconomic Factors Affecting Implementation

Based on Table 12, we analyze where land value has been captured so far. We have data on both planning permissions sorted by cities, and on planning applications. Data on planning applications for TAMA 38 projects gives a better perspective on the implementation and success of TAMA 38 projects in different geographic locations. This is because whereas planning applications rely on the provisions of the national plan, the total number of planning permissions in cities is subject to a variety of factors that do not directly relate to the TAMA plan, such as local politics, and the disposition of local governments toward the TAMA plan (Ben Yitzhak 2019). In other words, planning applications better represent the market reaction to TAMA 38 in each city.

To examine the different factors influencing TAMA 38 development, we look at the relation of both the number of planning applications and planning permissions to seismic risk and socioeconomic indicators of the city. Pearson correlation for all variables tested is presented in Table 15.

Table 15: Pearson Correlations

		Correlations					
		Number of planning applications	Total units in planning permissions	Seismic risk (1-low ; 9-high)	Average sales price per sqm of residential floorspace in NIS	Peripherality cluster (1-peripheral; 10 - central)	Socio-economic metric (1-low; 10-high)
Number of planning applications	Pearson Correlation	1	.816**	-.235	.682**	.515**	.458*
	Sig. (2-tailed)		.000	.258	.000	.008	.021
	N	25	22	25	25	25	25
Total units in planning permissions	Pearson Correlation	.816**	1	-.379*	.589**	.538**	.304*
	Sig. (2-tailed)	.000		.010	.000	.000	.042
	N	22	45	45	45	45	45
Seismic risk (1-low; 9-high)	Pearson Correlation	-.235	-.379*	1	-.681**	-.788**	-.438**
	Sig. (2-tailed)	.258	.010		.000	.000	.002
	N	25	45	48	48	48	48
Average sales price per sqm of residential floorspace in NIS	Pearson Correlation	.682**	.589**	-.681**	1	.834**	.583**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	25	45	48	48	48	48
Peripherality cluster (1-peripheral; 10 - central)	Pearson Correlation	.515**	.538**	-.788**	.834**	1	.444**
	Sig. (2-tailed)	.008	.000	.000	.000		.002
	N	25	45	48	48	48	48
Socio-economic metric (1-low; 10-high)	Pearson Correlation	.458*	.304*	-.438**	.583**	.444**	1
	Sig. (2-tailed)	.021	.042	.002	.000	.002	
	N	25	45	48	48	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

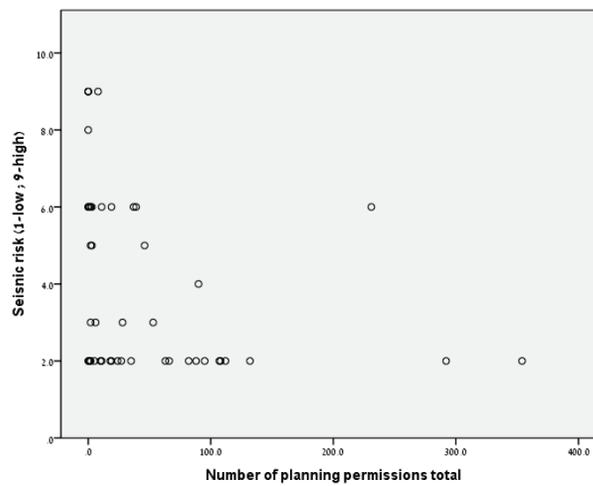
* . Correlation is significant at the 0.05 level (2-tailed).

Table 15 shows a negative correlation between seismic risk and both planning applications and planning permissions. The correlation between seismic risk and planning permissions is significant at the 5 percent level.⁹ As seismic risk is higher, the number of planning permissions is lower.

Another interesting issue depicted by Table 15 is the significant negative correlation between seismic risk and socioeconomic indicators, implying that seismic risk is higher in peripheral cities with lower land values (-0.438). This is a challenge TAMA 38 is expected to cope with.

The following graphs show the relation between seismic risk and planning applications and planning permissions. The analysis suggests that areas with higher seismic risk, lack TAMA 38 projects, contrary to the objective of TAMA 38 policy.

Figure 28: Correlation Between Seismic Risk and Planning Permissions



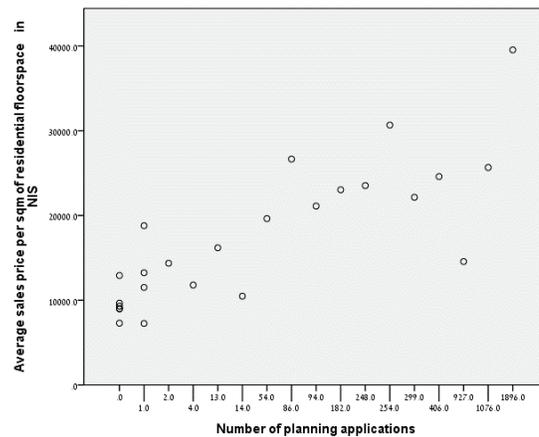
Source: Authors.

⁹ Notably, the negative correlation between seismic risk and planning applications is not as significant; specifically, it is not significant at the 5% level.

Average Sale Price Per Square Meter of Residential Floor Space and its Relation to TAMA 38

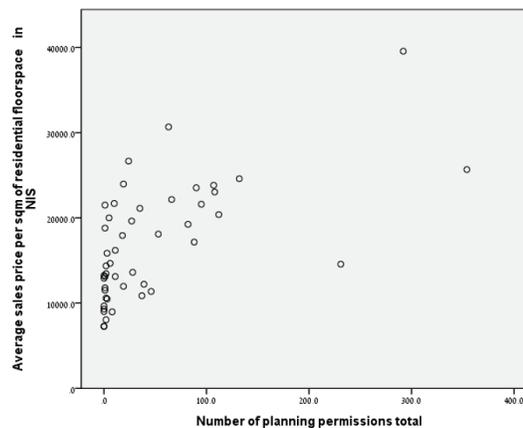
Table 15 and Figure 29 demonstrate a positive correlation between average price per sqm and planning applications and planning permissions. As the price per square meter rises, the number of planning applications and planning permissions also rises. The correlation is significant at the 1 percent level, and more pronounced for planning applications (0.682 compared with 0.589). The following figures depict this correlation:

Figure 29: Correlation Between Average Price Per Square Meter and Planning Applications



Source: Authors.

Figure 30: Relation Between Average Price Per Square Meter and Planning Permissions



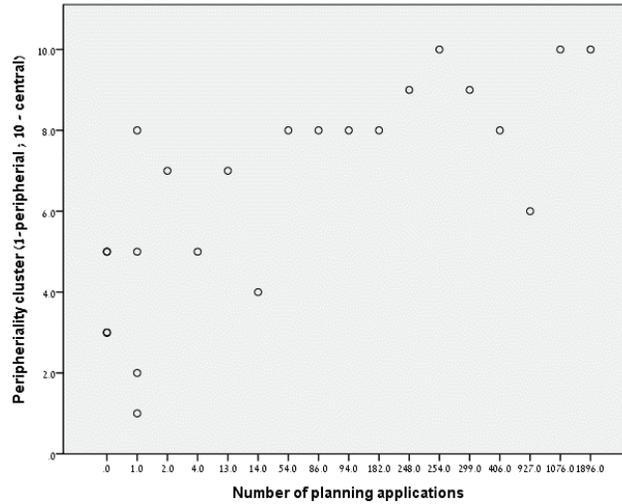
Source: Authors.

TAMA 38 projects have gradually become associated with the goal of urban renewal as well as seismic retrofitting. Thus, peripheral cities with lower land values should be prioritized. In practice, however, market forces lead in the opposite direction, as TAMA 38 projects are most likely to take place in cities with higher land values, where urban renewal can be secured using other measures.

Peripherality Cluster

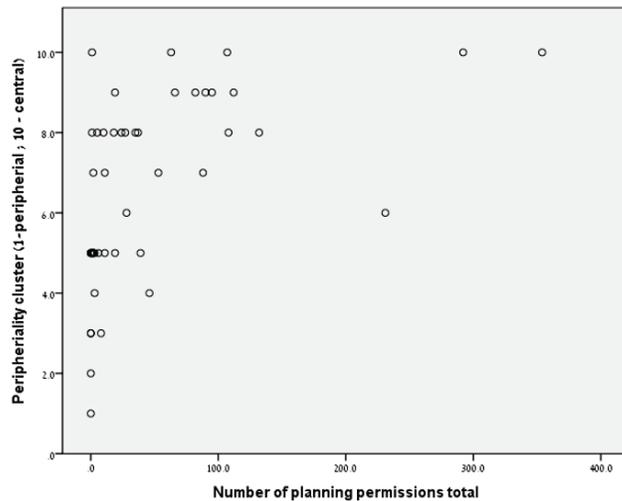
Figures 31 and 32 show a positive correlation between peripherality and planning applications and planning permissions. As the local authority is more central, the number of planning applications and planning permissions is higher. The correlation is significant at the 1 percent level. The following graphs illustrate this strong relationship:

Figure 31: Peripherality and Planning Applications



Source: Authors.

Figure 32: Peripherality and Planning Permissions



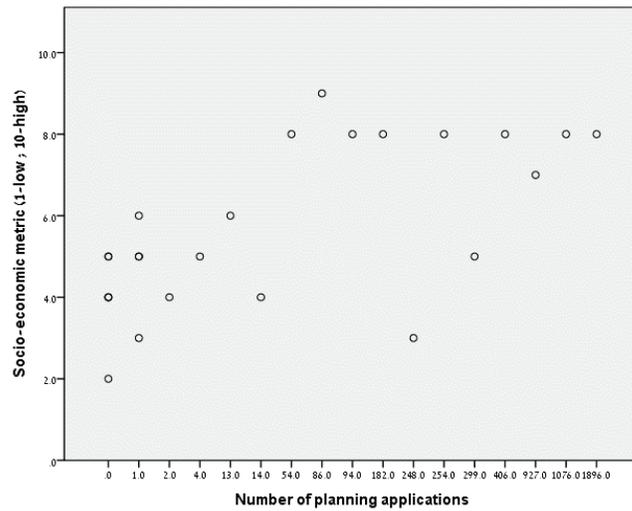
Source: Authors.

Table 15 also suggests that peripherality is strongly correlated with average price per sqm (Pearson correlation equals 0.834). These results are not surprising and accentuate the difficulty in implementing TAMA 38 projects in the periphery, contrary to central government priorities.

Socioeconomic Level

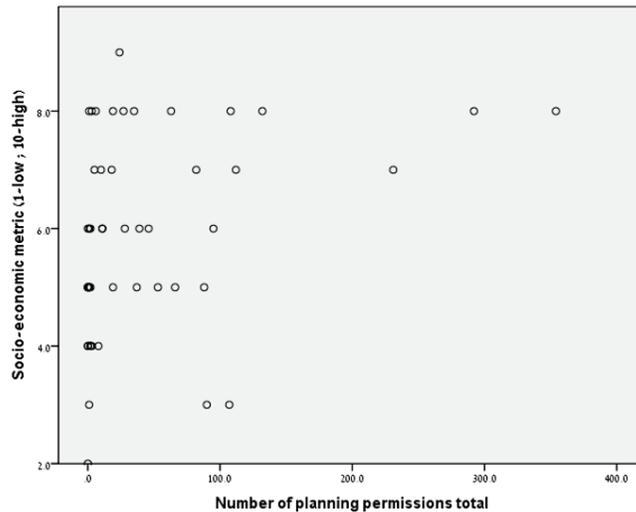
A somewhat weaker positive correlation, significant at the 5 percent level, was found between socioeconomic level and both the number of planning applications and planning permissions. The following graphs illustrate this relationship:

Figure 33: Relation Between Socio-Economic Level and Planning Applications



Source: Authors.

Figure 34: Relation Between Socio-Economic Level and Planning Permissions



Source: Authors.

According to the above analysis, the objective of TAMA 38 to reinforce buildings against earthquake threats, therefore prioritizing areas with high seismic risk has not been achieved so far. TAMA 38 projects were mainly executed in the center, where land value is higher.

Who Benefits?

This section explored the economics of TAMA 38. We analyzed and evaluated land value captured by apartment owners, developers and the government authority.

TAMA 38 has the potential of spurring significant land value increases. Specifically, a variety of consumers may enjoy its fruits through value capture - first and foremost, apartment owners and then developers. Both groups reap a certain portion of value uplift, yet TAMA 38 enables apartment owners to benefit even more by capturing value increments.

It is not surprising that apartment owners whose property has been upgraded by a TAMA 38 project are highly satisfied with the policy, as they gain the most from its realization. Instead of paying betterment levy to the local authority, the sum is internalized in the project itself, not only by the building reinforcement, but also by enlarging owners' flats. Developers also profit from not having to pay betterment (together with owners). They buy air rights, and those rights create revenue and profit in the form of new flats for sale in high demand cities.

Public authorities have also benefitted so far from the structural reinforcement of buildings against earthquakes in TAMA 38 projects¹⁰, yet TAMA 38 is in a way 'the best thing' that could happen to private owners in cities with high land values, as they recoup most of the value increments, otherwise payable to local authorities as a local betterment tax. Instead of paying betterment levy, the money is –in a way– directly invested in the project, thus enhancing the profits of apartment owners as well as developers.

Overall, the unequal value capture between stakeholders and between high-price and low-price towns, renders TAMA 38 as inefficient when you consider efficiency in terms of implementation in practice, coping with inequality, distributional outcomes to stakeholders, and with negative externalities.

The economic analysis provides evidence for the inequities associated with land value capture tools that are imposed top-down, irrespective of local context. The analysis supports existing literature and land value capture theory that flags implementation challenges and problematic outcomes, including unwanted distributional trajectories of land value capture (Alterman 2012).

A Critical Evaluation of TAMA 38

The foregoing analysis explored TAMA 38 by looking at different legal and economic aspects of the policy and its implementation. In order to further evaluate the TAMA 38 policy, it is important also to understand the views of stakeholders. This chapter expands the analysis by referring to in-depth interviews and a survey we have conducted.

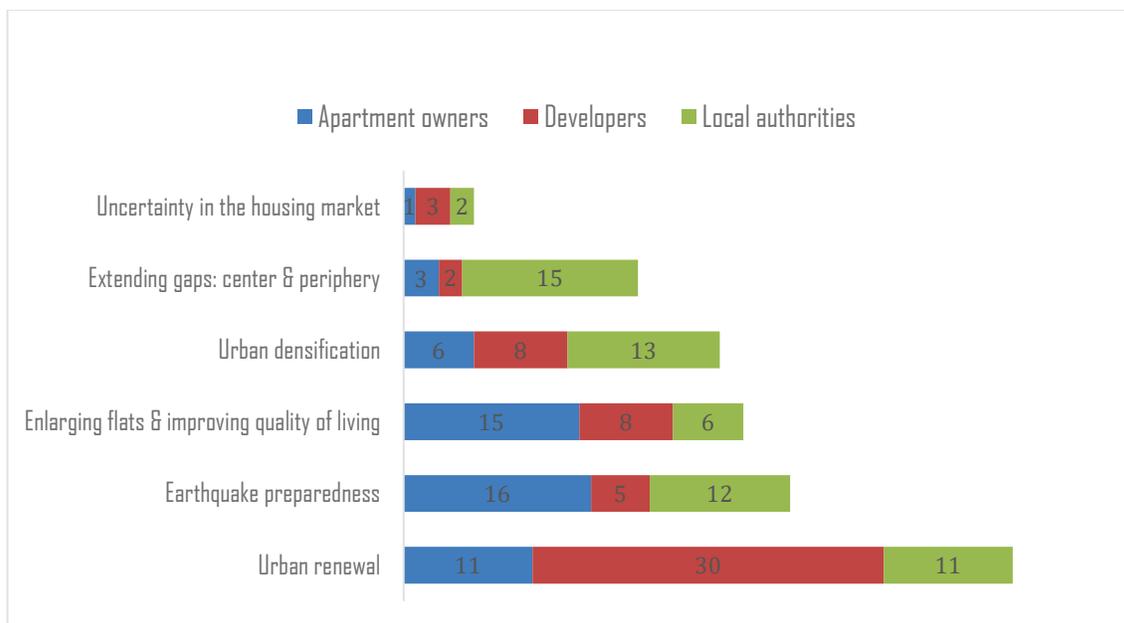
¹⁰ We calculate these benefits in terms of the cost of reinforcement.

The survey of 180 stakeholders in the TAMA 38 process targeted three major groups: developers, city officials (including planners, architects, politicians, etc.), and owners of apartments in buildings undergoing TAMA 38 renovations. The views of these stakeholders help to paint a fuller picture of the TAMA 38. As described in the methodological chapter, each respondent filled in an online survey. Informants were asked a series of questions (see Appendix B) related to their views on the TAMA 38 process. The findings from the interviews and the survey shed light on land value capture theory and the literature on outcomes and implementation challenges of land value capture policies.

The Major Outcome of TAMA 38 Development

Our respondents (N=180) believe that the major outcome of TAMA is urban renewal. Whereas apartment owners and workers in local authorities spread their answers amongst several possible options, a large segment (n=30) of developers pointed to urban renewal as the primary result. In contrast, apartment owners pointed to seismic retrofitting (n=16), and enlarged apartments (n=15) as the primary results, while local authority workers chose urban densification (n=13), seismic retrofitting (n=12), and urban renewal (n=10) as the major outcomes of TAMA 38. These replies show that each group looked at TAMA 38 as it effects their interests –that developers were concerned with the economic and real estate related implications of the program, homeowners were concerned with TAMA 38 as it effected their individual apartments, and officials in local authorities looked at the effects of TAMA both in terms of effects on the neighborhoods and urban fabric, and in terms of earthquake safety.

Figure 35: What is the Major Outcome of TAMA 38 Projects? (N=180)



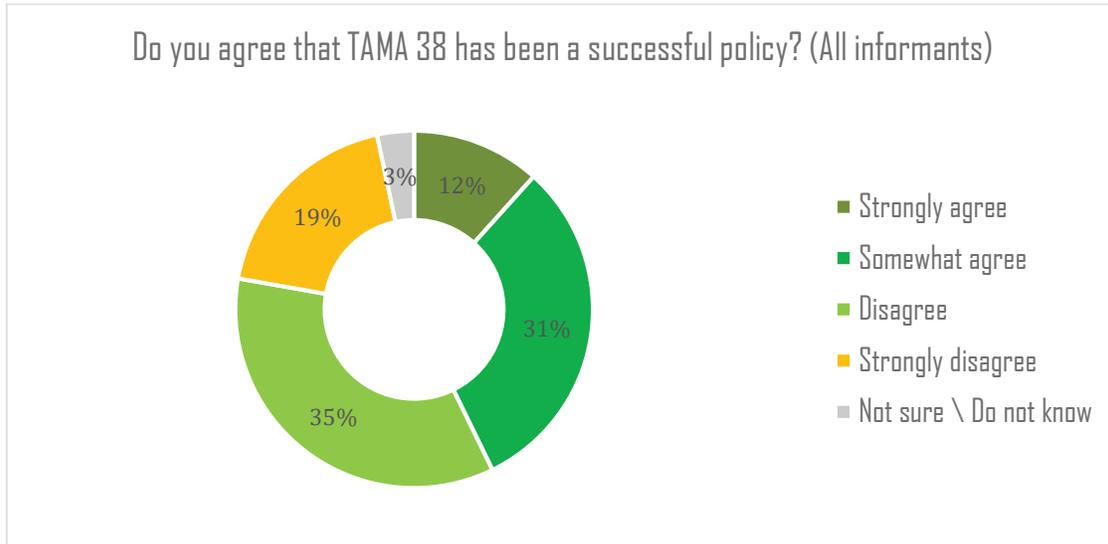
Source: Authors.

These findings suggest that while the policy was presented as a lifesaving hazard mitigation tool, in fact, it is often perceived as a tool to achieve another public interest: urban renewal.

Can the Israeli Policy Be Considered a Success Story?

Evaluation of Overall Success

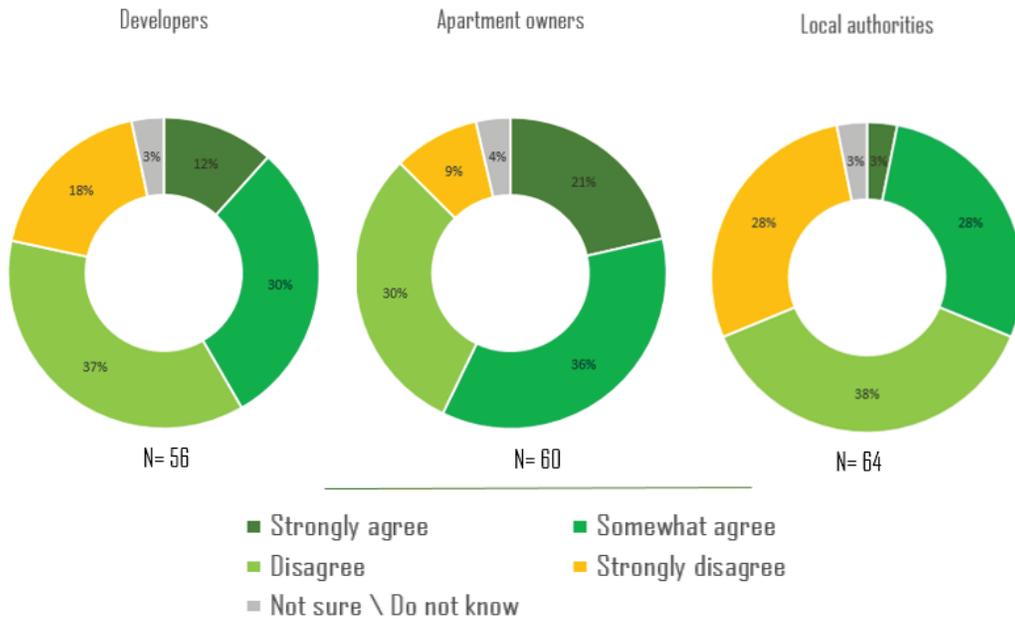
Figure 36: Respondents' Perception About the Overall Success of the TAMA 38 Policy (N=180)



Source: Authors.

Most respondents do not believe that TAMA 38 is a success story. As described in the analysis, there could be several possible reasons for this sentiment. First and foremost, the perception of respondents could imply that TAMA 38, as a value capture tool, has had limited success in achieving its declared goal of earthquake hazards mitigation. In particular, the analysis suggests that although it has been quite successful in high price areas, this success is ultimately partial as implementation did not reach high-need areas. These figures correspond with the economic analysis as well as the available data on the geographic locations of TAMA 38 projects. Both point to the inability of the policy to 'work its magic' in peripheral towns, as well as in neighborhoods where land values are quite low.

Figure 37: Perception About the Overall Success of TAMA 38 Policy, by Stakeholder (N=180)



Source: Authors.

However, a breakdown of respondents by group sheds more light on the perceived success or failure of the policy (figure 37). Apartment owners were the most positive about TAMA 38, with 57 percent agreeing or somewhat agreeing that TAMA 38 has been successful, while 39 percent disagree or strongly disagree with that claim. Developers were somewhat more evenly divided, with 42 percent agreeing or strongly agreeing that TAMA 38 has been successful, and 55 percent disagreeing or strongly disagreeing. And of the three groups of stakeholders, workers in local authorities were least positive about the success of TAMA 38, with 31 percent agreeing or strongly agreeing that it was a success, and 66 percent disagreeing or strongly disagreeing. This can be explained, in part, by the fact that according to our findings, apartment owners benefit the most from TAMA 38 projects, at least in terms of the total value they captured compared to developers. Value uplift to owners in TAMA 38 projects is probably a critical issue which leads them to view TAMA 38 as a success story. The local authority workers’ more critical evaluation of TAMA also makes sense giving the findings of the costs to local authorities, both in terms of lost revenue and in terms of the costs of increased density. To understand these positions more fully it is worth examining responses to more specific questions. In addition, the interviews we conducted bring to the fore other issues that further explain the challenges and critiques associated with government policy. We describe those issues in the following sections.

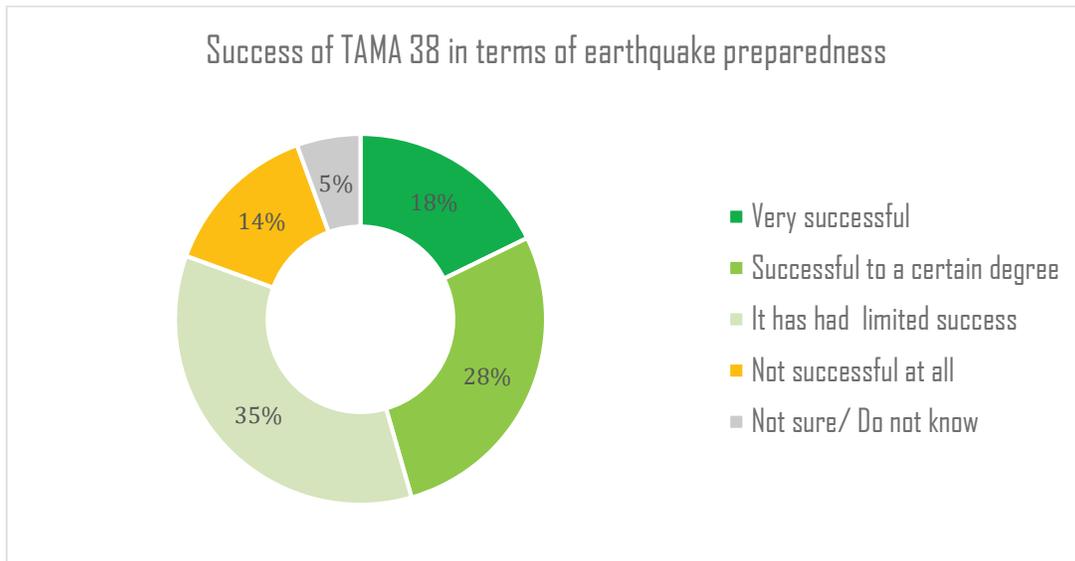
The National Plan Has Stopped Being About Earthquake Preparedness, as Other Public Goals Have Taken Hold

The primary motivation behind the National Plan was preparing residential buildings to face future quakes. Gradually, however, the tune of developers and government officials changed;

throughout parliamentary meetings, public debates, and court sessions, they began stressing other benefits of the TAMA, including its contribution to urban renewal, and to adding new flats that could address the acute shortage in housing. The TAMA, they argue, can achieve other public benefits. The severe Israeli shortage in housing was often cited as a reason to use the TAMA in order to enlarge the available housing stock and to answer increasing demand. These justifications also meant that government officials strived to create the conditions to increase the surplus value in these projects by calling city planning commissions and mayors to streamline the process, to allow more apartments to be built, and to generally support a developer-friendly climate.

Critics argued that, eventually, these goals (urban renewal and more housing) became the primary concern and took hold of the TAMA, so much so that earthquake preparedness has been sidestepped. The result of this phenomenon, according to critics, is that local planning commissions and government officials seek ways to expand the number of units built in TAMA 38 projects, irrespective of the safety, social, urban, and economic repercussions. When asked how successful TAMA 38 was in preparing urban residents to face earthquake hazards, respondents disagreed (Figure 38).

Figure 38: Overall TAMA 38 Perceived Success with Respect to Earthquake Hazard Mitigation



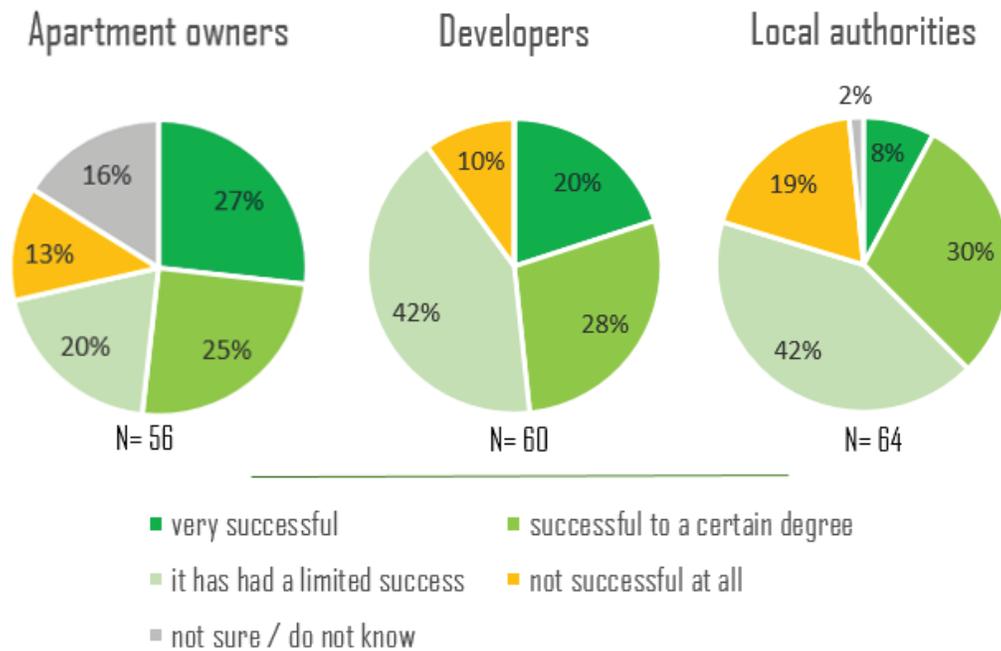
Source: Authors

Figure 38 illustrates that respondents were split in their perception of TAMA 38’s success in addressing earthquake preparedness. About 46 percent believe it has been very successful or successful to a certain extent in achieving its declared goal. However, 49 percent of respondents criticize the TAMA plan as unsuccessful or as having limited success.

Looking at each group of respondents separately (Figure 39) it appears that apartment owners are again more positive in their evaluation of the success of TAMA 38 in achieving earthquake preparedness than developers, who were more positive than local government. One developer

raised the question of whether the seismic retrofitting required by TAMA 38 process is even effective in strengthening the building in the case of earthquakes, as the modifications required do not strengthen the core of the building (Blumenfeld 2019). An owner of a development firm that works for the local authorities understood that even if the TAMA 38 process works to strengthen individual buildings, the policy is a failure if the buildings that are in most need of reinforcement are not touched –when asked whether the program is effective in achieving its goals of seismic reinforcement she explained that “at its core, TAMA 38 cannot incentivize implementation in the periphery. Land values there are totally different... whoever designed a single TAMA for the whole country made it destined to failure” (Sharet 2019).

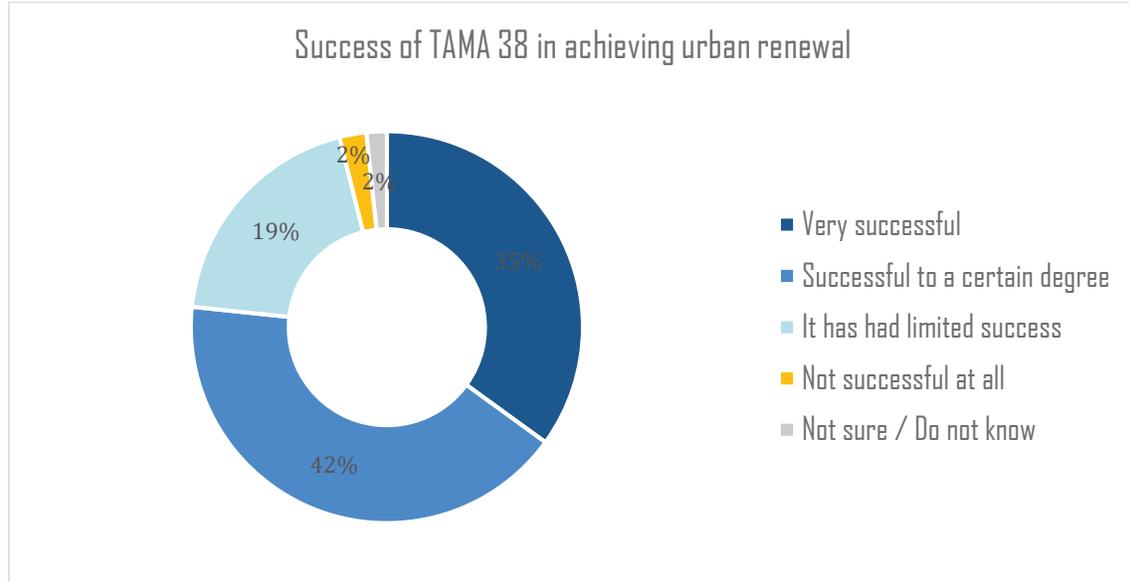
Figure 39: TAMA 38 Perceived Success with Respect to Earthquake Hazard Mitigation, by Stakeholder (N=180)



Source: Authors.

When asked about the success of the national policy in terms of urban regeneration, respondents were less critical. According to the survey findings, most respondents (77 percent) agree that TAMA 38 has been quite successful in promoting urban renewal (Figure 40). Over one third believe it has had success in this regard. The data, thus, correspond with the overall transformation of the policy: from an earthquake preparedness tool, it has gradually turned into a planning tool to achieve urban regeneration through value capture. As stated by one public official: "Let's face the music: TAMA 38 is about urban renewal; stop calling it earthquake reinforcement" (Dinour 2019).

Figure 40: Overall TAMA 38 Perceived Success with Respect to Urban Renewal



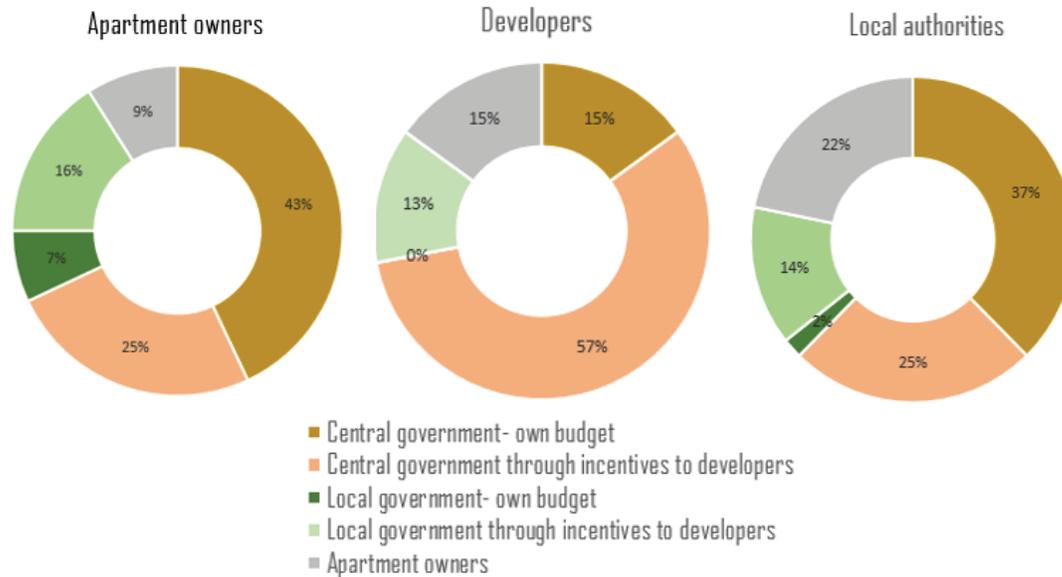
Source: Authors.

Value Capture and the Israeli Policy: Who Should Be Responsible for Earthquake Preparedness?

A normative question that was raised throughout our research was: who should facilitate earthquake preparedness and how? Should value be created by government and then harnessed by market forces? Should government enable value capture by upzoning or perhaps the free hand of the market is not suitable, practically, and normatively, for hazard mitigation?

When asked to tackle the normative question of who should pay for seismic reinforcement, there were some notable differences between the groups of respondents. The largest group of both apartment owners (43 percent) and local authority workers (37 percent) asserted that the central government should pay for earthquake reinforcement itself. In contrast, the majority of developers (57 percent) asserted that the government should incentivize developers to perform seismic reinforcement. The developers' support of government incentivizing seismic reinforcement, which in fact describes TAMA 38, might reflect the financial benefits they get from the policy rather than a normative commitment to public private partnerships. About twice the proportion of local authority workers (22 percent) than developers (15 percent) or apartment owners (9 percent) believed that owners should pay for the retrofitting of their own apartments. These results might come from a true belief among local authority workers that people should be responsible for their own safety in the face of earthquakes, or could actually come from dissatisfaction with the TAMA 38 program, which might spur frustrated local government officials to prefer private funding of seismic retrofitting as a programmatic, rather than normative choice.

Figure 41: Who Should Help Protect Buildings Against Future Earthquakes?



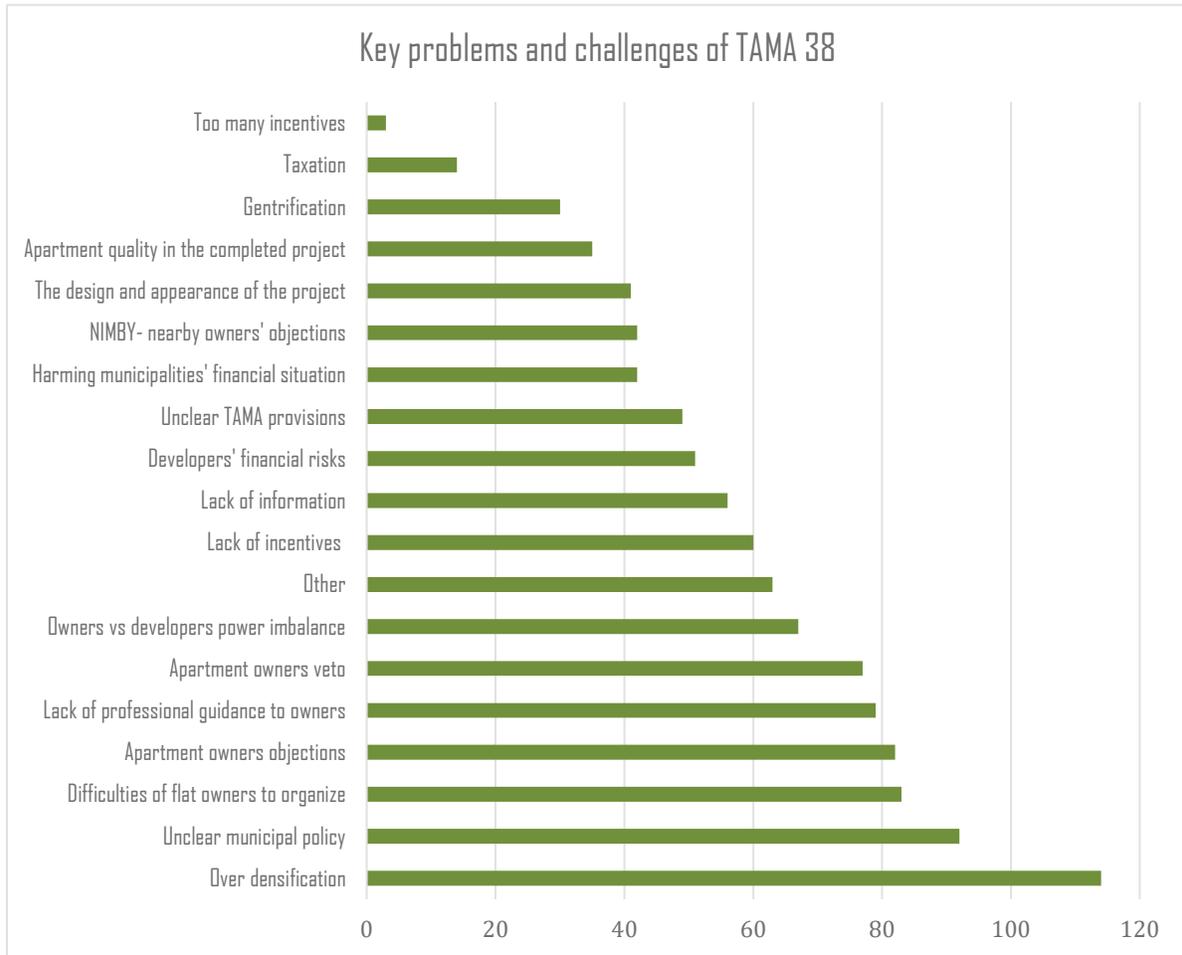
Source: Authors.

Perception of TAMA 38 as a Value Capture Instrument: Survey Responses

Our respondents were asked to list and rank a variety of problems and challenges associated with TAMA 38 as a value capture instrument. The findings point to a range of problems with some issues standing out (Figure 42). While some respondents flagged implementation challenges, others highlighted the problematic outcomes of value capture.

Out of 180 respondents, over 110 pointed out over-densification as the major problem of TAMA 38 development. The influx of new residents in TAMA 38 projects together with enlarged buildings might burden existing infrastructure and put a strain on local governments’ ability to supply goods and services such as education and health. Informants also stressed other issues such as unclear local policies that put developers in the dark, creating ambiguities and inability to foresee the future and the disposition of municipalities toward specific proposals to redevelop residential buildings in the TAMA 38 track. A third issue which was highlighted by the informants relates to the difficulties of owners to organize and agree on a TAMA 38 project. There are many reasons for this, such as lack of trust among co-owners in a condominium, as well as reluctance of certain owners to pursue redevelopment.

Figure 42: Key Problems Associated with TAMA 38 According to Informants

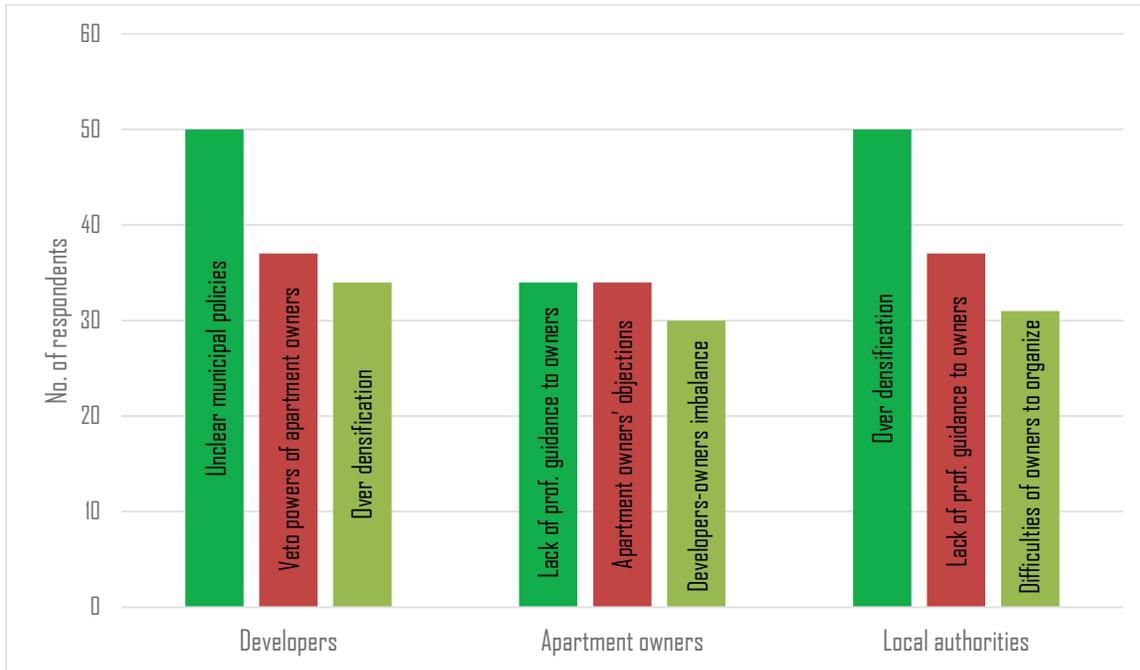


Source: Authors.

It is worth noting that informants do not perceive taxation as a challenge or obstacle in TAMA 38 projects. Likewise, gentrification is not considered to be a pressing issue when pursuing redevelopment. In similar vein, the design of the resultant building or the configuration of new apartments are not considered urgent issues.

Breaking down these numbers, by interest group, the survey indicates that each group perceives different challenges to be more crucial (see Figure 43). While developers complain about local policies, apartment owners' view lack of guidance as a major obstacle in realizing TAMA 38 development. City officials, however, underline over-densification as the most crucial challenge of TAMA 38 projects.

Figure 43: A Breakdown of Major Challenges Associated with TAMA 38, by interest group.



Source: Authors.

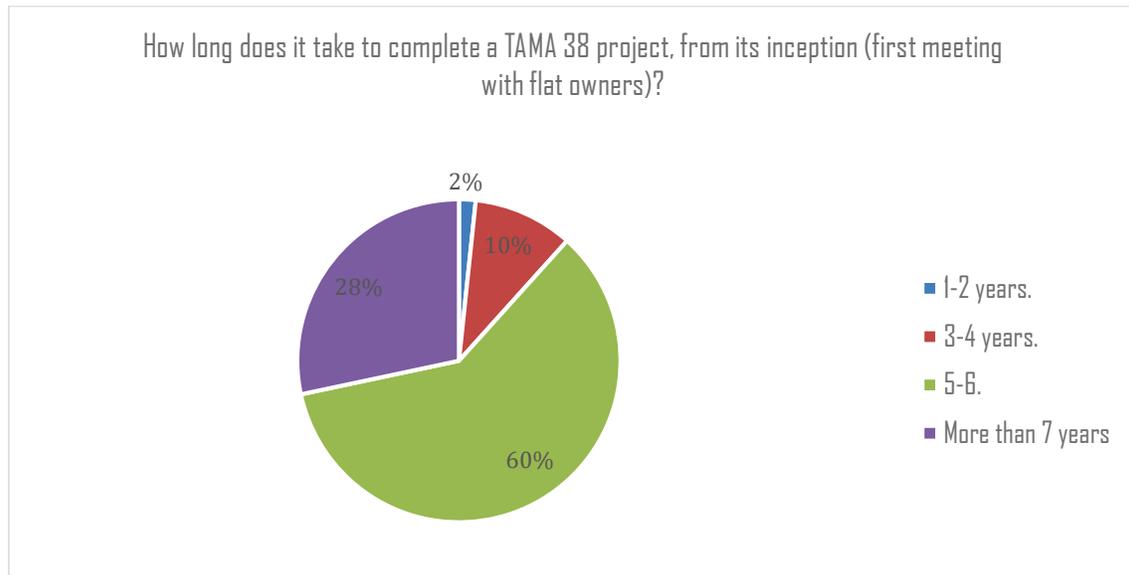
We zero in on these prominent challenges below. Specifically, we review what informants had to say about each challenge. In addition, we discuss other problems raised by the interviewees.

Key Challenges Associated with TAMA 38: Implementation Hurdles

Slow Pace of TAMA 38 Development

Perhaps because of the complexity of TAMA provisions, the bureaucracy involved in its realization, the difficulties to obtain owners' consent, court challenges, and local planners' reluctance to approve certain types of developments, the pace of TAMA 38 approvals has been slow. It is no coincidence that as of 2017, less than 2 percent of eligible buildings (those built before 1980), have received a building permit in line with TAMA 38. When asked, developers responded that it might take 7 years or more to complete such projects (Figure 44).

Figure 44: Duration of TAMA 38 Projects, according to developers.



Source: Authors.

Unclear Urban Policies

Figures 42 and 43 suggest that in the case of TAMA 38, unclear urban policies are often perceived as an implementation challenge to land value capture. The stipulations of the TAMA 38 policy leave room for interpretation and, thus, the plan is confusing. In addition to the vagueness of the national policy, a significant share of respondents argue that its local implementation is also a source of contention. Because TAMA 38 allows a level of discretion to localities, they may adopt local statutory plans that regulate the TAMA 38 projects in their jurisdiction. As a result, each city may adopt a different set of guidelines, if they adopt any at all. Figure 42 reflects these problems, as most of our informants pointed to the ambiguity of local policies, as a key obstacle in realizing TAMA 38 projects. In fact, unclear policies were mentioned as the second most significant obstacle. Interviewees were quite resolved, arguing that local governments are a key reason for a ‘market failure’ around the TAMA policy (Otmazgin 2019; Kanecht 2018). Specifically, many interviewees argued that local governments’ failure to devise local guidelines for implementing these projects brings about tensions between developers and city administration (Amario 2019; Eshel 2019). A real estate appraiser we interviewed argued that “local governments change their views quite often and adopt different local policies that give way to uncertainty and make it much harder to plan and realize projects” (Landau 2019).

Lack of Professional Guidance to Owners

Both apartment owners and public officials from local government argued that one of the main challenges in TAMA 38 projects is lack of professional guidance to owners. According to this viewpoint, flat owners are ill-equipped to deal with developers, as well as with the legal, architectural, and engineering aspects of development (Sharet 2019; Angel 2019). However, these owners are expected to organize and sign an agreement for the sale of their share of

property rights. Professional guidance could have helped owners reach a well-informed decision and explain to them the pros and cons of redevelopment. Interviewees indicated that professional assistance could have streamlined the process of value capture.

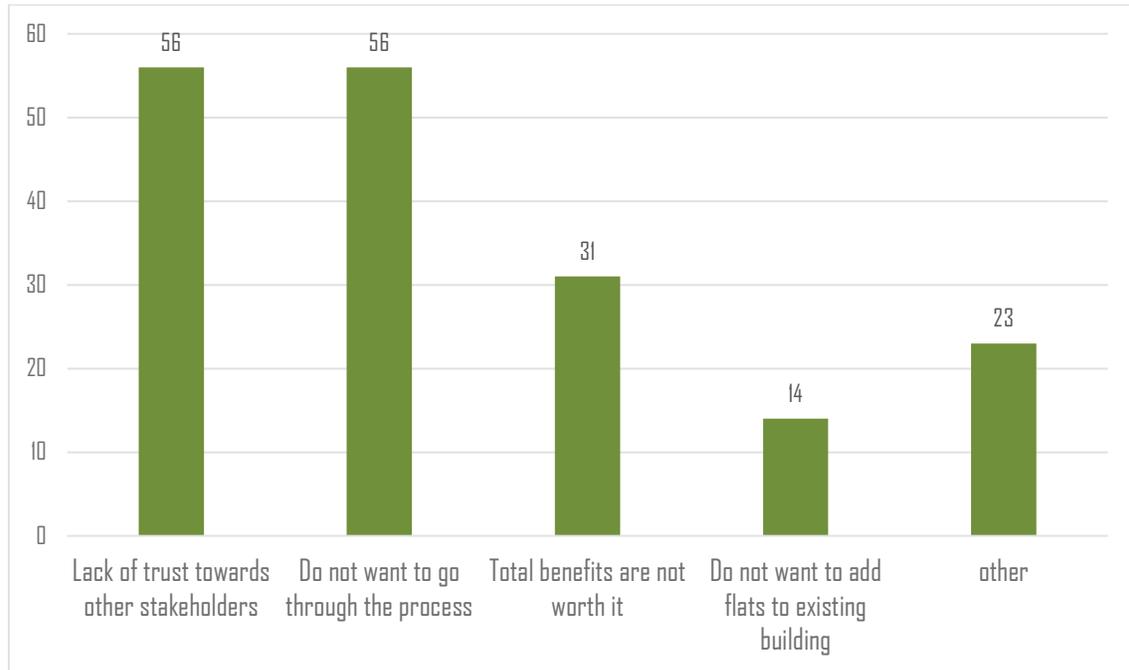
While this is a challenge, interviewees also note that some local planning authorities, as well as new urban renewal departments in cities, are doing exactly that: consulting residents, informing them, and explaining them the options they have, the benefits, as well as the risks (Niv 2019; Frish 2018).

Owners: Organizing and Objecting

One major precondition for value capture by landowners is their ability to cooperate, to reach an agreement, and to choose a developer to work with. However, this is easier said than done. Our interviewees point to a range of difficulties that might hamper cooperation altogether. Specifically, owners may find it difficult to organize because of internal objections of co-owners. For example, in a building of 10 apartment owners, half may object to carrying out redevelopment. Thus, when only 50 percent agree to pursue a TAMA 38 project, it is impossible to proceed as the law prescribes that at least 66–80 percent of flat owners must approve before a developer can submit a proposal to develop. When asked why owners might object, respondents pointed out as major hurdles a lack of trust and a lack of motivation to go through a lengthy TAMA process (see Figure 45).

When asked “what is the major reason for apartment owners to reject a TAMA 38 project?” respondents pointed out lack of trust, as well as reluctance to go through the complex process of TAMA 38 as key reasons.

Figure 45: What Is the Major Reason for Apartment Owners to Reject a TAMA 38 Project?



Source: Authors.

As for lack of trust, one interviewee notes that some apartment owners do not trust developers and as a result refuse to cooperate with other co-owners who want to push the renovations forward: “fear is the keyword here” (Landau 2019), our informant notes. Specifically, respondents discussed fear that the developer would go bankrupt and the owners would remain with a half-finished building. Other informants highlighted lack of trust among apartment owners themselves (Niv 2019).

Respondents also noted that some apartment owners object to TAMA 38 projects in their building because they are afraid of change. They are afraid of going through a complicated project which might sometimes entail moving out of the apartment while the building is being demolished or renovated. Specifically, elderly tenants might object and refuse to sign a contract in accordance with TAMA 38 (Pikervich 2019).

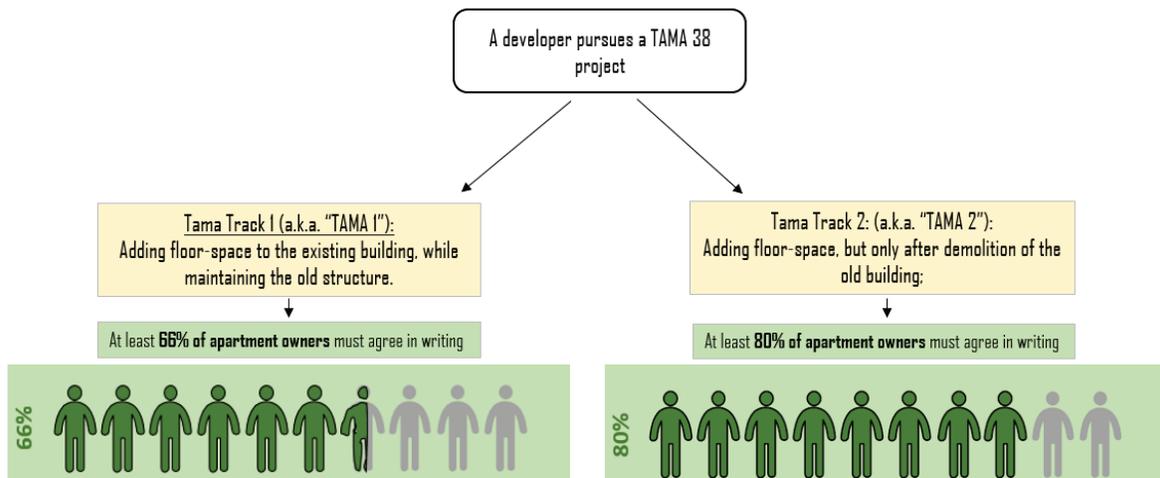
Besides these two reasons, value capture faces additional hurdles: some co-owners believe that the total benefits (not only monetary ones) are not worth the hassle, while others avoid TAMA 38 development because they want to keep their apartment building as intimate as possible, with a small number of apartments. Other reasons were also pointed out in our survey, including internal fights between co-owners, and reluctance of owners to forfeit or risk their property rights and hand them over to developers.

Implementation Challenges from a Social Point of View: Growing Tensions and Conflicts

Several reports have suggested that the National Plan creates tensed relations between co-owners of apartment buildings (Parliament of Israel 2016; Praver 2016). Owners do not always agree amongst themselves whether to renovate the building or not. Even when there is an agreement, co-owners of a multi-flat building can still disagree on whether the building should be demolished or built anew; and whether a certain developer should be hired for the job. TAMA 38 is therefore responsible for many potential cleavages between owners. As one informant humorously pointed out: “where there are three apartment owners, you will find four different opinions” (Otmazgin 2019).

Because legal amendments allow for TAMA projects to be implemented with the agreement of 66–80 percent of flat owners, at times most flat owners can impose their will on the few who refuse to proceed with a TAMA project. In these cases, the project can still move on and receive a building permit. This creates conflict, court challenges, and animosity. The delicate relationship between apartment owners in a multi-flat building can be jeopardized (Pikervich 2019).

Figure 46: The Consent Required in TAMA 38 Projects According to Israeli Legislation



Source: Authors.

Developers who seek to remove opposition may use different tactics; some developers may pay-off refusing apartment owners, a tactic which exists in the grey area of legality. To convince them to sign a contract, developers can offer apartment owners extra benefits, such as cash, or a complete renewal of the insides of their apartments, better contractual conditions, and extra parking space to be registered as part of their ownership rights. This, of course, can create unnecessary transaction costs, encourage lengthy negotiations, holdout situations, and lead to the ‘blackmailing’ of developers. In addition, it can lead to more tensions, because of discriminatory rewards granted to different flat owners based on when they signed an agreement with a developer.

When apartment owners are intransigent, developers and co-owners can take the refusing owners to court (including a special Lands Court), suing them for delaying redevelopment. In these cases, courts can impose consent, even when the constitutional right to property is mentioned as a viable reason for refusing a TAMA project. At times, the developer might pit owners against each other, thereby creating more tensions and animosity. As for planning procedures, as long as at least 66–80 percent of flat owners support the transaction, planning commissions are not bound by refusals and can grant a planning permit despite pleas from refusing apartment owners to reconsider.

It is important to note that according to our informants, there are a variety of reasons for flat owners to refuse to sign an agreement with a developer to pursue a TAMA project. Some owners are old or unhealthy and do not want to be exposed to construction work or even move away from their home, while the building is undergoing TAMA development. Others want to keep the number of flats to a minimum, unwilling to expand the number of co-owners in the plot. Others refuse because they believe the developer is tricking them into a bad deal, while another group may use refusal tactics to extend the rewards it will receive from the developer (Halpert 2017). The latter situation is also known as ‘*the refusing owner syndrome*,’ and it is often attributed to greedy flat owners who aspire to sign the contract last in order to ‘extort’ more benefits for themselves.

Veto Powers of Owners: The Refusing Owner Syndrome

A key obstacle to value capture is the ability of a single co-owner in an apartment building to refuse to sign an agreement with a developer. When not enough co-owners agree to pursue TAMA 38 development this can mean, in fact, that a single owner can exercise veto powers.

Interviews with stakeholders suggest that opposition by apartment owners come primarily from an evaluation of the development process and its results (see Figure 45). Most of the survey results (62 percent lack of trust plus don’t want to go through process) indicate that opposition comes from issues purely to do with the process. A much smaller group indicated that they believed the apartment owners oppose TAMA 38 because of its anticipated results (7 percent don’t want to add flats). These homeowners do not want to add residents to their building or neighborhood. A somewhat bigger group (17 percent total benefits) suggest that homeowners weigh up the results against the hassle of the process and decide that it is not worth it. A homeowner for whom this is true probably does think that the results of TAMA 38 are desirable—they want a bigger apartment, a seismically retrofitted and renovated building, but when they evaluate these benefits against the hassles of the TAMA 38 process, they may choose to veto development altogether.

Co-owners in apartment buildings may exercise their holdout powers in any of the above situations; when considering the benefits offered to them as insufficient, or when they lack trust. In these situations, when there is no agreement, even one apartment owner can halt TAMA 38 development. When a developer cannot secure enough signatures of agreeing co-owners, it is extremely hard to receive a planning permit.

The stakeholders suggested that the primary reason residents would not want to implement TAMA 38 is the hassle of going through the process, and especially that older people were less likely to think that the process of TAMA 38 was worthwhile: those that object are mostly “the population of old people for whom it is not easy to get into this process, who prefer to live the rest of their lives in the building as it is” (Hamis 2019). These issues could be either the physical or non-physical aspects of the process: the unpleasantness of dealing with developers or greedy neighbors, the hassle of living in a construction site, or having to temporarily relocate. Discussions with stakeholders indicate that there is opposition to TAMA 38 development for reasons related to both the physical and the non-physical process.

The other issue is the discomfort and inconvenience produced by the physical construction process. Stakeholders suggest that homeowners who are also residents do not want to live in a construction zone, and do not (especially the old or sick ones) want to move to temporary rental housing, even though it is paid for by the developers. The suggestion that older people are less likely to want to put up with the difficulties of relocating came up again and again. While there was not data collected about the age of people who oppose TAMA 38 processes, these interviews suggest that it is worth paying attention to the varying needs of different populations of residents. Having said that, from a purely economic perspective, the ‘refusing owner syndrome’ may appear to be irrational. As one urban planner told us, “I cannot understand it, he (i.e. the refusing owner) always gains from it” (Cohen 2019).

Power Imbalance: Developers Versus Apartment Owners

Another theme which runs along the debates surrounding TAMA 38 is the power imbalance between the developer and apartment owners (Dimri 2019). Because developers are the ones with expertise and know-how, they may use this imbalance to produce an unfair agreement that may disregard the needs of existing apartment owners. The TAMA, and a project that rides on the momentum of free-market transactions, creates the conditions for such an agreement but does not intervene in the contractual relationship between private parties. This leaves room for manipulation. As one informant notes:

When we met for the first time, we signed a plan and we signed a contract. In the plan [we signed], there was supposed to be a lot more than what we received in the end. The developer claimed that the municipality did not accept the [original] plan because it would change the appearance of the city... In the end, they went with a different plan that we did not sign. And so, afterwards, when I went to the developer and asked him ‘show me the plan, where I signed it,’ he did not have a plan to show me... His plan didn’t have anyone’s signature, from the building, in the end (Levy 2019).

One interviewee suggests that there are resources available to help apartment owners improve their deficit in knowledge when compared to developers. She explains that “the residents can choose the lawyer who represents them, and the developer pays for him. Today the residents of Ramat Gan [a city in the metropolitan Tel Aviv area] are educated and know exactly what they should get. At the same time there is an organization in Tel Aviv that was founded from the

understanding that there are weaker residents who want [TAMA 38] but can't stand up for their rights or understand the system" (Sharef 2019).

Additional Critiques Associated with the Outcome of TAMA 38 as a Land Value Capture Tool

The legal and economic analysis, together with the survey findings, and data obtained from interviews, do not only point out challenges of implementation, but also a range of critiques about the outcome of policy. Here we discuss major issues raised by our interviewees.

Over-densification in the Urban Environment

The key problem associated with TAMA 38 is over-densification (Figure 42). Both developers and public officials pointed this topic as one of the most challenging issues pegged to the national outline plan (Figure 43). Thus, the price for value capture can be extreme urban densification which is the source of social, economic, and urban problems. As one city official puts it:

There are places in the city where the number of residents almost doubled... it creates extra burdens on the traffic system, urban infrastructure, schools, kindergartens, sewage system, and everything that relates to a neighborhood undergoing urban regeneration (Gino 2019).

Central government is often blamed for these externalities and for putting cities in fiscal jeopardy. To achieve national goals, local planners and politicians are pushed aside to make way for new housing units in renovated buildings. Indeed, these new housing units can better withstand earthquake damage, but the situation is not necessarily a win-win situation –TAMA 38 projects impose additional public costs that are not always accounted for when single projects are granted planning permits.

One employee of the city of Haifa explained that most of the objections they receive from residents are related to over densification: "many of the objections that we receive are related to the overload on infrastructure. Mostly complaints about parking, density" (Dimri 2019). One developer explained how TAMA 38 produced more pressure on infrastructure and services due to densification than other urban development programs because "the cities don't know what to do because they grow denser, and the problem is that... with TAMA 38 you do not set aside any land because you add to an existing building" (Blumenfeld 2019).

Others claim that density was used as an excuse but was not in fact the main problem. One developer explained how the municipality of Kiryat Bialyk used infrastructure and over-densification as an excuse not to allow TAMA 38 projects. "The mayor can say that there is no infrastructure and no parking; clearly that is an excuse, but still it isn't at a level that it should stop all deals, the city is growing all the time" (Landau 2019). The developer went on to defend the increasing density produced by TAMA 38: "It's not a coincidence that people want to live in Tel Aviv... There are many approaches to planning that say that the denser the mixed-use city

the better, and because of this I don't think it is good to stop the densification process" (Landau 2019).

Macro-Economic Repercussions: Fueling the Housing Crisis

TAMA projects have become one tool that central government uses to enlarge the number of apartments in the city. This tool allows government to increase the supply of housing, much needed in Israel due to high population growth. In fact, the housing shortage is so severe, that experts opine that Israel has witnessed one of the worst housing crises in recent decades. Critics, however, argue that TAMA has had a complicated influence on the market. First, by encouraging homeownership and investment in second-home apartments, it has fueled the housing crisis by feeding the demand for housing. Media outlets have painted the policy as a great opportunity to invest in real estate given low market interest rates (Greydinger 2018). Given the difficulties of living in an apartment undergoing TAMA 38 renovations, it might be especially appealing for those who do not live in the apartments they own, but can subject unfortunate renters to it, or can afford to leave it empty. Research indicates that while Israeli apartment owners are not permanently driven out by the implementation of policies like TAMA 38, renters often find themselves displaced (Kainer Persov 2017). Second, it was argued that TAMA 38 actually drives prices up in areas in which it operates, therefore propelling chain reactions of increases in home prices, followed by gentrification, and less affordable opportunities to buy apartments (Parliament of Israel 2015). TAMA development could therefore accentuate the gap and cleavages between high-price neighborhoods and low-price areas in which it does not work very well.

Discriminating Against Peripheral Townships

The data suggests that TAMA 38 has had a regressive impact; while it operates in high-demand (high-price) areas, peripheral cities have struggled with its implementation (Inter-Ministerial Committee 2006; Foyer 2018). In addition, our economic analysis included in this report provides additional proof that there is significant correlation between the number of planning applications and the peripheral location of cities. This led some interviewees to point out that by relying on the market, the government has privatized planning and hollowed out its capacity to improve the lives of those who most need it (e.g. Angel 2019). It has also spurred a range of responses from local governments: while peripheral towns stressed discrimination against them, less peripheral cities have lambasted central government for imposing too much development in their existing urban fabric, thereby straining their economic capacity to deliver goods and services.

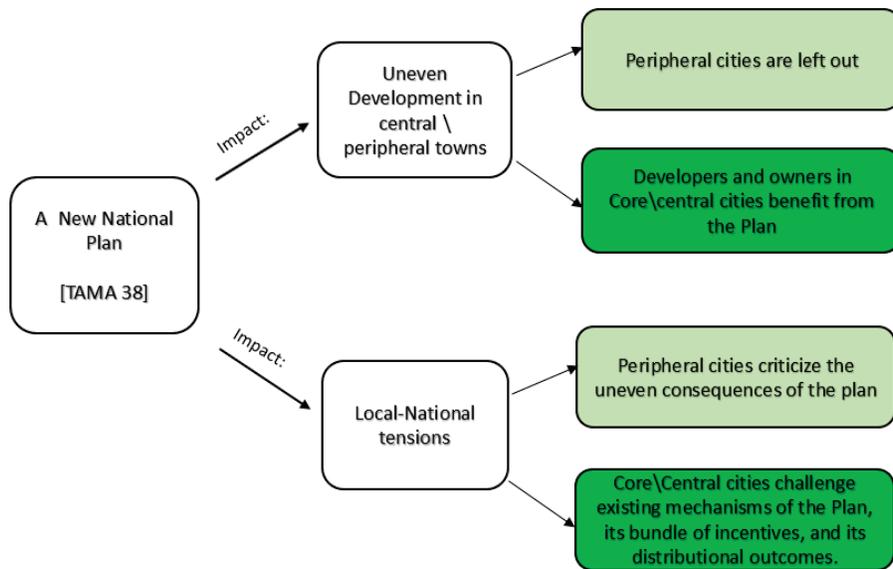
Indeed, in a parliamentary meeting in 2015 which dealt with future amendment to the National Plan, a member of the opposition party questioned the government's actions, specifically, the government's inability to reinforce buildings, and its failure to promote viable solutions in peripheral townships:

The State of Israel chose to go in the direction of privatizing its responsibility and future solutions. I am worried about this direction, but I still understand that until a socialist government is established in Israel, one still needs to care for people's

lives. I want solutions to an earthquake. I think we need to worry about a situation where there is an earthquake and we had not prepared for it (Dov Khenin, Member of Parliament, The Parliament of Israel, 2015).

This critique was also voiced by a range of informants we have interviewed (Ginsberg 2019; Ben-Yitzhak 2019; Amario 2019). Interviewees opined that TAMA 38 as a policy is realized according to market principles. Value capture is thus subject to the laws of supply and demand. Specifically, “in the center of the country there is a solution, but in the periphery, it is not possible to make buildings earthquake-ready because the government decided that market forces are running the show” (Ben-Yitzhak 2019).

Figure 47: Uneven Development Following the Implementation of TAMA 38



Source: Authors.

National Outline Plan Impinges on the Economic Stability of Cities

By adding flats, TAMA 38 requires cities to supply more services and build additional infrastructure. Plots on which more flats are built add to urban densities and impose externalities on the urban surrounding. For example, roads and sewage pipes may need to be upgraded to adapt to an increase in population. While the TAMA creates value to developers and owners, its value to local governments is less obvious. It can regenerate entire areas in the city, thereby saving money and time to city administrations looking to expedite renewal. It is also true that it can create other economic benefits in the city, such as increase in land values. However, because the TAMA denies cities betterment contributions (see Figure 17), it strips them of an important tax and reduces the money available for them, at least in the short run, to supply necessary services and infrastructure. Bearing in mind that the TAMA might have a cumulative impact, the total amount of added flats can reach thousands in each city, thereby impinging on the ability of cities to serve their inhabitants. At first, this did not seem to bother the national government who saw the national interest as the primary concern. Because mayors have limited abilities to

influence national-level planning in Israel, they were left out of the policy-making process. Court challenges were lodged but courts have often sided with central government reciting the goal of increasing urban resilience, as an urgent call which mandates local concessions (Shaked 2017; High Court Petition No. 685/17 *The City of Ramat-Gan vs. the Government of Israel*).

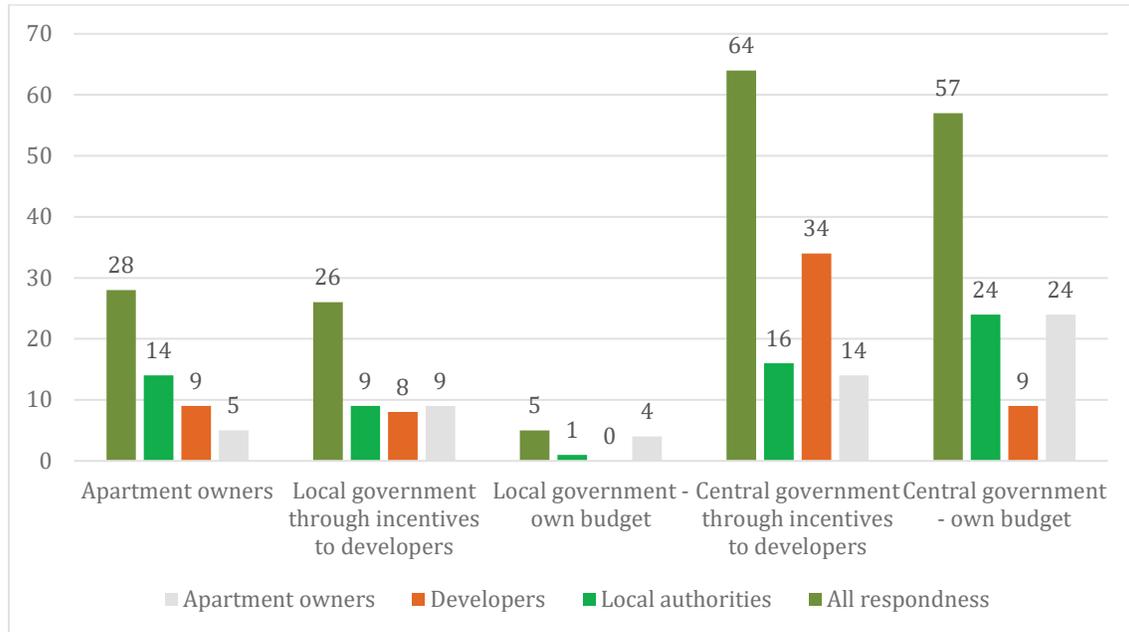
The experts we interviewed from local planning authorities have mostly acknowledged that TAMA 38 puts considerable strains on city governments. Blaming central government for ignoring local interests, one public official argued:

TAMA 38 policy always comes at the expense of local governments. Statutory revisions are also approved at the expense of cities that do not have the necessary additional funds to build and maintain infrastructure. Instead of supporting them, central government puts extra burdens on the shoulders of local governments (Sharet 2019).

These burdens manifest as extra costs that local governments incur as result of the need to finance services for additional residents in their jurisdiction. The burdens magnify as central government tempered with the ability of cities to charge better levies (Dinour 2019; Sasson 2019).

When asked, most respondents replied that central government should have achieved its goals by relying either on its own budget or through incentive zoning (Figure 48). Fewer respondents believe that local government should finance earthquake-hazard mitigation directly (using its own budget) or indirectly by granting developers a host of incentives. Specifically, most developers we approached argued that central government should be tasked with earthquake preparedness by incentivizing private market actors. Most apartment owners and local government representatives argued that central government should pursue earthquake preparedness relying on its own budget, without creating value through incentive zoning (Figure 48).

Figure 48: Perceptions of Respondents About Who Should Help Protect Buildings Against Future Earthquakes

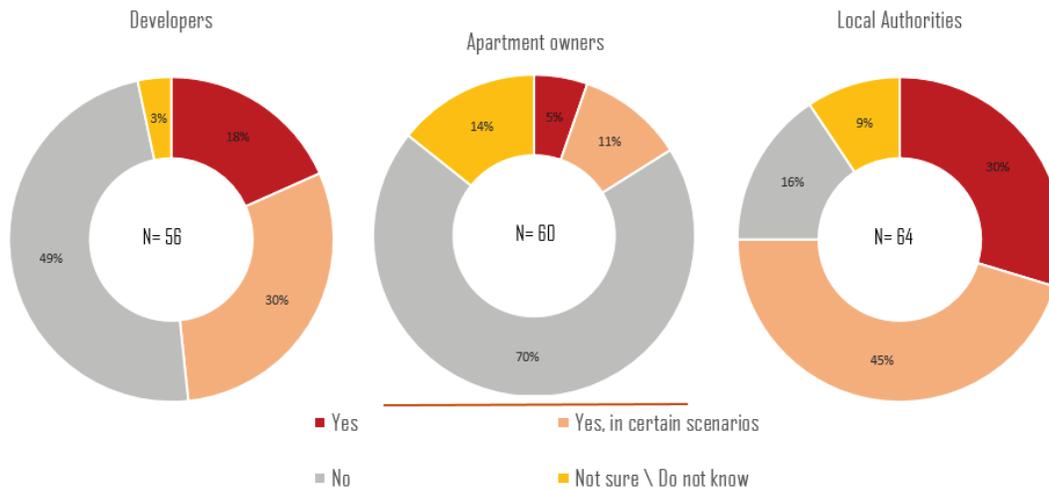


Source: Authors.

In other words, respondents allege that central government should be responsible for the wellbeing of its citizens while relieving local government of such duties. Respondents differ, however, in terms of their approach to value capture: while a large share of respondents believe central government should create value and allow value capture by the market through the sale of air rights, others put the onus on central government itself, not on market forces. Consequently, some respondents are generally in favor of not burdening city administrations with goals set by central government.

Equally interesting is the approach of different stakeholders to the issue of betterment levies. When asked whether central government should allow cities to charge betterment levies in TAMA 38 projects, stakeholders replied as follows:

Figure 49: Should Betterment Levies Be Charged in TAMA 38 Projects?



Source: Authors.

The response of local officials is not surprising, as 75 percent believe that betterment levies should be charged in TAMA 38 projects, especially in high-demand areas. Interestingly, 50 percent of respondents in the developers group stated that the local authorities should charge betterment levies, at least in certain situations. These responses point to developers’ understanding that if local authorities do not expand their revenue, they will be less enthusiastic to promote TAMA 38 initiatives, and eventually unable to make investments and improvements in the surrounding neighborhood.

While developers understand the broader map of interests, owners do not support betterment taxation, and refuse to acknowledge the needs of local governments. This is a classic example of a free-riding response.

Eventually, the pleas of local governments and public scrutiny led central government to amend the Planning and Building Act. Accordingly, the exemption from paying betterment levies applies as long as the developer adds no more than 2.5 floors to the existing building. Any additional FAR above this *would* incur betterment payments.¹¹ In so doing, central government attempted to walk a fine line between the interests of developers and those of local governments.

Urban Repercussions: Extreme Changes in the Streetscape and the Urban Environment

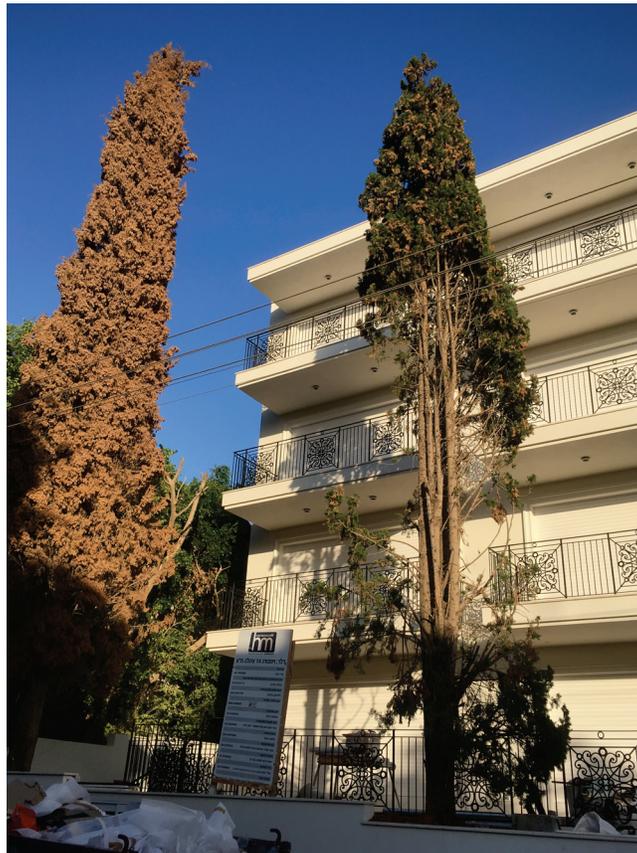
When a TAMA project is completed, it may entirely change its urban surrounding, adding height and bulk to a street which had previously been characterized by smaller residential, older buildings (Gazit 2017a). This may dramatically change the character and feel of the neighborhood and the city as a whole (Bimkom 2010). Indeed, several local experts we interviewed raised this concern (Sharet 2019; Dinour 2019). Moreover, the Union of Landscape Architect has lodged a court petition against the impact of the TAMA on urban trees; the Union

¹¹ In these cases, the developer would have to pay half of the betterment levy.

argued that TAMA projects involve cutting of trees while creating ‘urban deserts’ (Reeva 2017). At times, even when a planning permit requires trees to be protected on-site, developers do not follow these prescriptions because tree protection costs money and involves continuous efforts to prevent construction damage. Unfortunately, there have been documented cases of soil compaction and other forms of physical damage that killed trees roots (especially when underground works are carried out).

Although the architectural qualities of the building itself may affect the cityscape, most respondents do not perceive the appearance of the building as *the* major issue in TAMA 38 projects (see Figure 50). Some informants blame local governments for failing to approve design guidelines that improve the outlook of these projects (Hamis 2019), while others simply argue that the design of these projects is not an issue (Goffer 2019).

Figure 50: Dead Cypress Tree (left) and an Injured Tree (right) near a Newly Constructed Building in Weisburg st. Tel Aviv, May 2018. The TAMA project added five new flats to the plot but failed to protect the trees.



Source: Nir Mualam.

In addition to design issues, informants have highlighted other urban issues pegged to development of this type. Because TAMA 38 is a national policy which applies to specific sites, somewhat randomly, it is perceived as a challenge (if not a problem) for urban planners. Spot-zoning, through TAMA 38, runs contrary to strategic and long-term planning. It can make it

difficult for urban planners to plan for infrastructure and public amenities. Urban planners we interviewed pointed out these challenges as well as different tactics they use to deal with these problems. One local planner listed a range of issues that are being considered when granting building permits to TAMA 38 projects:

We try very hard to relate to the surrounding environment... we do not approve plans for high-rise buildings, and we aspire to reach a uniform skyline... and to ensure older populations are considered throughout... (Ben-Yitzhak 2019).

Another interviewee pointed out the need to mitigate negative externalities created by TAMA 38 projects. While there is an increase in population, there is a growing need for more public spaces. Where possible, certain cities have strived to include public spaces and utilities in TAMA 38 development such as kindergartens in ground floors (Hasson 2019). However, overall, city administrations have struggled with the national policy, as it endangers the fiscal health of the cities; TAMA 38 provides in kind benefits but denies local planning authorities the possibility to charge local betterment taxes. This adds to existing strains on local governments and can impede urban growth and the provision of goods and services. Put differently, as an indirect value capture policy, TAMA 38 may result in the tragedy of the commons; fewer public services for a growing number of urban dwellers. Eventually this might lead to welfare loss to city residents. As stated by one public official: "I don't receive betterment levies which I can invest back in the neighborhood, I don't supply more public services; to the contrary, as there are more people I supply less" (Dinour 2019).

What Can Be Gleaned from TAMA 38 About Land Value Capture Policies: The Israeli Case as a Laboratory to Inform Theory and Practice

The foregoing analysis looks at the nuts and bolts of TAMA 38 policy, its implementation challenges, economic and legal aspects, its gradual evolution through intensive policy adaptations, and its problematic outcomes. However, lessons gleaned from the TAMA case study are more generalizable. As the Israeli case unfolds, important issues concerning land value capture reveal themselves.

First and foremost, a major insight from the Israeli case is that disaster preparedness can be considered a legitimate public interest. In fact, future earthquake preparedness is at the core of the justification for TAMA as a way to use land value increments. This is, in our mind, a contribution to theoretical debates on land value capture.

This, however, has come at a price. The Israeli case shows that land value capture tools are complicated by a range of difficulties and undesired outcomes.

This investigation of TAMA 38 shed light on several difficulties and implementation challenges, as suggested by the literature—difficulties of integrating value capture mechanisms into the existing regulatory framework (Smolka 2013); the crucial role of local government in effective implementation of value capture (Almeida et al. 2018); the importance of clear guidelines and rules for value capture (McCarthy 2017); the problems associated with overt reliance on market

mechanisms and private agents (Muñoz Gielen 2016); coordination problems; and, in general, inefficiencies associated with value capture tools (Alterman 2012). This investigation suggests more than a list of woes, however, but rather a typology of difficulties. This typology can hopefully be useful not only in research on value capture mechanisms, but also as a sort of ‘what not to do’ checklist.

The typology is derived from the steps of value capture as described by Huxley:

- Value creation: public investment, government action, or planning/regulation changes which have the potential to increase land values.
- Value realization: investment by the private sector which takes advantage of the public investments or regulatory changes.
- Value capture: mechanisms which transfer some of the profits earned by the private sector to the public sector.
- Value recycling: investment of the profits into the area being developed.

We address these steps in the context of TAMA 38, in light of the findings.

Value Creation Issues

The implementation of TAMA 38 has illustrated the difficulty of adopting value capture mechanisms which are dependent on the coordination of multiple levels of government. Specifically, TAMA 38 provides insight about cases in which central and local governments do not agree on when and how to use value capture tools. When different tools are available in the value capture toolkit, central government may decide to pick and choose certain ones to use in a given situation. That is to say that government can decide to create value using mechanisms that serve primarily national interest while writing off capture tools that serve local goals. Legal battles over the ability of local governments to block the granting of additional building rights highlight some of the difficulty in the effective targeting of value creation in the face of competing interests and priorities.

Conflicts between different tiers of government and between different agents can prevent value creation in the form of increased building rights. There were instances where the local government had not wanted to adopt TAMA 38 and was able to use local planning discretion to prevent its implementation. In other instances, groups of local governments banded together to demand reform of the legislation to improve its implementation and to devise clearer rules for value creation. On one hand, the dissenting voice of local government might be crucial in preventing the willy-nilly implementation of a national level law, and on the other hand the lack of mutually-agreed-upon goals on the local and national level meant that in some cities, the policy is not easily implemented.

Another issue is ‘what for’? Why do governments strive to create value in the first place by using value capture mechanisms? The Israeli case demonstrates that value creation can become contentious when the goals of creating value become garbled. Specifically, the Israeli case shows what happens when different stakeholders view the goals and benefits of value capture differently: from an earthquake-preparedness tool that creates and recoups value, TAMA 38 soon

morphed into a tool associated primarily with urban renewal and economic growth. The findings indicate that other stakeholders beyond the national government did not think about TAMA 38 in terms of personal or public safety, but rather in terms of economic benefits, quality of life, and implication on the urban fabric. This goal-shift shows that value capture mechanisms could be used to pursue goals other than the original ones. This highlights the fact that different stakeholders view value creation differently. Value creation becomes a dynamic issue, which is constantly being interpreted by different agents. Indeed, the intention of TAMA 38, and perhaps of value capture mechanisms, to promote goals that would be, if not unpopular, unappealing, opens the hatch for different stakeholders to adopt new narratives and justifications for creating and capturing value.

Value Realization Issues

TAMA 38 provides further evidence about the difficulty to enable value realization in an equitable manner. As illustrated by the Israeli case, land value capture, when driven by the invisible hand of the market, might create value where it is not needed and completely miss its target of providing relief to earthquake-prone towns. Notably, land value capture tools represent inherent inequality, as land values differ between high demanded and peripheral cities. Unfortunately, TAMA 38 through land value capture tools is not doing a good job in mitigating inequality. TAMA 38 distributes benefits unequally and has severe regressive effects: most value is captured by apartment owners and then by developers. Value is realized primarily by private agents, and only a relatively small portion is left to public authorities.

In addition, the Israeli case contributes to land value capture theory by pointing out other realization challenges: value realization can become a slow process when new tools for value capture are introduced. There are a variety of reasons for its slow implementation, including conflicts between different tiers of government, and between different agents who are supposed to cooperate if value capture is to occur.

The take home point for planners and policy-makers around the globe is that value capture mechanisms such as TAMA 38, in which the schedule relies on the dictates of the real estate market, the planning process, and negotiations between stakeholders, pose many potential points where the process can be slowed, or even halted.

Public Value Capture Issues

The Israeli case provide invaluable lessons about the challenges of using indirect value capture mechanisms to achieve public goals. When policy does not leave the same value to be recouped by public authorities, it might propel a series of unwanted outcomes such as negative externalities imposed by private stakeholders which are hard to offset. Moreover, public value capture might not work in peripheral locations and can therefore completely miss its declared target.

This embedded inequality between private and public stakeholders gives birth to a range of regressive outcomes, as not enough value is recouped to cope with negative externalities (such as over-densification in the case of TAMA 38). It is not surprising then that some cities are not

encouraging TAMA 38 projects as they cannot supply public goods and services needed to offset the costs of additional families entering the city through TAMA 38 initiatives.

Given the hierarchical systems of governance in Israel, central government's goals eventually trumped local ones, therefore denying local governments the ability to charge betterment levies and to benefit from direct public value capture. Instead, central government declared betterment levies, as a secondary mean to achieve the public interest and, specifically, that value capture through upzoning should replace betterment taxation as a land value instrument designed to create value to be recouped by public authorities. These difficulties highlight the importance of collaboration and cooperation between different levels of government. Lack of cooperation makes public value capture more challenging, if not impossible.

Value Recycling Issues

Value recycling, the stage in which stakeholders return some of the profits made as a result of changing regulation to the public, depends first and foremost on realizing enough value and capturing value by public authorities. In the case of TAMA 38, local governments are forced to forfeit betterment contributions and cannot recoup sufficient value to finance increase in demand for services and infrastructure. The policy is shaped by central government to enable generous value realization by owners, but a less generous capture by public authorities. When this happens, value recycling becomes a challenge. Local government receive certain in-kind benefits (in the form of construction and retrofitting) but do not receive cash in order to invest back into the area being developed. Value is recycled only at the microlevel; per plot and per building. Profits and revenues are invested on-site by retrofitting one building at a time. As a result, captured value does not serve neighborhood-level upgrades.

The Israeli case, therefore, suggests that the content and rules of value capture policy can be flexible enough to allow capture by different private and public stakeholders. Value capture policies can also be flexible by allowing different stakeholders to adopt a variety of interpretations concerning the primary goals of value capture. However, value capture policies might also result in inflexible outcomes by preventing offsite recycling of value created through these mechanisms.

Conclusion

The Israeli National Outline Plan No. 38 (TAMA 38) aims to strengthen urban resilience by increasing earthquake preparedness. To that end, it utilizes upzoning as a way to enable value capture by private owners, developers, and public authorities. Its outcomes, however, do not fully succeed in realizing into action such an agenda. The findings of this study suggest that the potential of value capture via the application of upzoning is vast. Nevertheless, there are quite a few hurdles to streamlining value capture; lack of cooperation or resistance from city administration or owners has undermined its implementation, and its reliance on market mechanisms meant that it has been implemented much less in the lower land value areas where it is really needed.

Despite its difficulties, the potential for value capture, through TAMA 38 is enormous. Indeed, it gained traction in core metro areas and has benefitted apartment owners as well as developers. In terms of public savings, the findings show that the policy has managed to save public coffers in areas where it has been applied. Despite its iniquitous outcomes, in high priced areas it managed to become a mediating force between public goals and private interests. It has allowed the capture of billions of dollars by apartment owners and developers.

Given national and local austerity, fiscal pressures on public officials, growing population and a growing need to supply public goods more efficiently, by ‘contracting out’ earthquake-preparedness, the Israeli government experimented with an innovative tool which does attempt to solve a problem in the face of these mounting challenges. It adopts a planning instrument which in fact upzones an entire country. Countries looking into hazard mitigation, by harnessing market logics, could find inspiration in TAMA 38.

At the same time, however, the policy serves as a warning sign against reliance on market mechanisms and private initiative within the flexible framework of indirect value capture. A key problem is that, by denying local authorities of betterment levies, central government makes TAMA 38 less equitable. The value uplift created by TAMA 38 development is used to supply in-kind benefits for hazard mitigation and urban renewal, but the plan fails to provide direct benefits in cash. Thus, the cumulative urban impact of TAMA 38 development might create an abnormal situation where existing local taxpayers subsidize the infrastructure needs of newcomers. According to local officials, central government has allocated costs and benefits perversely through TAMA 38 projects. This critique is galvanized by looking at the unequal geographic distribution of TAMA 38 development, and by the distribution of benefits which is tilted in favor of developers and owners. Overall, the case of TAMA 38 implies that equity is not always achieved via top-down, market-led value capture.

In a new manifesto for government, Parker notes that “cities should be prized and utilized by national governments as engines of sustainable economic growth, cultural diversity, and advanced social policy, but they should not become reservations for certain groups of populations” (Parker 2015, 238). Having said that, when central government impinges on urban autonomy, and experiments with national level tools of value capture, it might not utilize local governments well. In the Israeli case, central government tried to marry the interests of the national and the local, and the public and the private. Although value capture tools can achieve that, when they create animosity, lack of cooperation, and inequalities, they might hamper advanced and effective policies. To remedy that, governments may want to think about different pathways, such as integrating indirect value capture tools with direct ones. Direct levies calculated as a portion of land value can be imposed by central government where indirect value capture mechanisms are applied selectively by the market. Value recouped through direct value capture can then be shared and redistributed between different geographic locations to complement and aid indirect capture apparatuses.

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Archives Used in the Course of this Study

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- City permits archive of the city of Ra'anana.
- City permits archive of Tel Aviv-Jaffa.
- Nevo- the legal archive (<https://www.nevo.co.il/>)
- The National Library of Israel Archives.

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Planning Appeal No. 5059/17 (Tel Aviv's Appeal Tribunal) Berlad vs. the City of Givatayim (Sept. 13, 2017), Nevo Legal Database (by subscription)(Isr.).

Planning Appeal No. 5465/15 (Tel Aviv's Appeal Tribunal) *Ya'az and City People Inc. vs. The City of Ramat Gan* (March 30, 2017), Nevo Legal Database (by subscription)(Isr.).

Appendix A: List of Interviewees

Interviews with Private-Market Developers and Their Employees (sorted by date)

1. Asael, 2018 Mr. Asael, G., December 30, 2018 (Head of the urban renewal department in the Asael Group).
2. Hasson 2019 Mr. Hasson, G., January 1, 2019 (Chairman of the 'Alpha' Real Estate Group).
3. Hammis 2019 Mr. Hammis, W. January 13, 2019 (Owner of Nora Developments Inc).
4. Otmazgin 2019 Mr. Otmazgin, M. January 13, 2019 (Consultant, architect).
5. Landau 2019 Mr. Landau, O. January 16, 2019 (Real estate appraiser).
6. Angel 2019 Mr. Angel, A., January 20, 2019 (Entrepreneur).
7. Verker 2019 Mr. Verker A., January 23, 2019 (Works in a development company).
8. Bariah 2019 Mr. Bariah, N., January 23, 2019 (CEO of a private construction company).
9. Amario 2019 Mr. Amario, D. January 26, 2019 (Employee of Efrat Investments).
10. Ben Or 2019 Mr. Ben-Or, O. January 27, 2019 (CEO of Beta Development and Real Estate Inc).
11. Blumenfeld 2019 Mr. Blumenfeld, A. January 27, 2019 (CEO of a private construction company).
12. Sasson 2019 Mr. Sasson, F. January 30, 2019 (CEO of a private construction company).
13. Eshel 2019 Ms. Eshel, T., February 12, 2019 (manager in an urban renewal company).
14. Ginsberg 2019 Mr. Ginsberg, T., February 13, 2019.
15. Fraha 2019 Mr. Fraha, A., February 20, 2019 (owner of a construction company).
16. Ben Zakoun 2019 Mr. Ben-Zakoun, N., February 21, 2019 (Owner of D. Etgar Property Management Inc).
17. Laxman 2019 Mr. Laxman, G, February 24, 2019 (Employee of The Company for Structural Reinforcement).

Interviews with Local Government Officials (sorted by date)

18. Frish 2018 Ms. Frish, Or., December 12, 2018 (Urban Renewal Unit, city of Be'er Sheba).
19. Ben-Yitzhak 2019 Mr. Ben-Yitzhak, I., January 2, 2019 (Urban Renewal Unit, City of Kfar Saba).
20. Cohen 2019 Mr. Cohen H., January 6, 2019 (Former Chief City Engineer of the city of Ramat Gan).
21. Dinour 2019 Ms. Dinour, S., January 9, 2019 (City of Jerusalem, Planning Department).
22. Gino 2019 Ms. Gino, S., January 20, 2019 (City of Haifa, department of urban renewal).
23. Ohayon 2019 Mr. Ohayon, K., January 27, 2019 (City of Be'er Sheba, Planning Department).
24. R.T. 2019 Ms. R.T., January 27, 2019 (requested to stay anonymous) (Senior employee in township in Northern Israel).
25. Sharet 2019 Ms. Sharet R. February 5, 2019. (Architect and former team member in the City of Ramat Gan).
26. Kapuza 2019 Mr. Kapuza A., February 11, 2019 (City Architect of the municipality of Ra'anana).
27. Dimri 2019 Ms. Dimri S., February 21, 2019 (Permits inspection unit, he city of Haifa).
28. Goffer 2019 Mr. Goffer, E. February 22, 2019 (City Architect, City of Yavne).
29. Niv 2019 Mr. Niv A., February 24, 2019 (Urban Renewal Unit in the city of Bat Yam).
30. Timor 2019 Mr. Timor R., February 24, 2019 (Timor-Schwartz Architects).

Interviews with Flat Owners Who Have Underwent a TAMA Development (sorted by date)

31. Rafad 2018 Ms. Rafad, R., December 20, 2018 (Re. a TAMA project in Kfar Saba).
32. Kanecht 2018 Ms. Kanecht O., December 30, 2018 (Re. a TAMA project in the City of Holon).
33. Agam 2019 Mr. Agam Y., January 11, 2019 (re. application in the City of Tel Aviv).
34. Harel 2019 Ms. Harel, D., January 13, 2019 (Re. a TAMA project in the City of Haifa).
35. Harush 2019 Ms. Harush T., January 16, 2019 (re. application in the City of Herzliya).

36. Or 2019 Ms. Or R., January 20, 2019 (re. a TAMA project in the City of Tel Aviv).
37. Stein 2019 Mr. Stein, J., January 21, 2019 (re. application in the City of Haifa)
38. Pikervich 2019 Ms. Pikervich, A., January 29, 2019 (Re. a TAMA project in the City of Haifa).
39. Engel 2019 Ms. Engel, M., February 5, 2019 (Re. TAMA project in Ramat Gan).
40. Levy 2019 Ms. Levy J., February 5, 2019 (Re. TAMA project in Tel Aviv).
41. Cohen 2019b Interview with the Cohen family, February 10, 2019 (Re. a TAMA project in Kiryat Bialik).
42. Gavrielly 2019 Ms. Gavrielly, N., February 11, 2019 (Re. a TAMA project in Jerusalem).
43. Engelstein 2019 Mr. Engelstein, T., February 14, 2019 (Re. a TAMA project in the City of Ramat Gan).
44. Anonymous 2019 Interview with Anonymous, February 15, 2019 (re. a TAMA project in the City of Petah-Tikva).
45. Danielly 2019 Ms. Danielly, A., February 21, 2019 (Re. a TAMA project in Jerusalem).
46. Sevillea 2019 Ms. Sevillea, R., February 24, 2019 (Re. a project in the city of Bat-Yam).
47. Baror 2019 Mr. Baror Y., March 3, 2019 (re. application in the City of Haifa).

Appendix B: Questionnaire for Developers

1. Your name (we will not use your name publicly but require it to validate our analysis).
2. Where do you work?
3. What is your role?

4. Number of TAMA 38 projects you were involved in?
 - a. 1-5
 - b. 6-10
 - c. More than 10

5. Regions in Israel in which you have promoted TAMA 38 projects?
 - a. Tel Aviv and Gush Dan.
 - b. Sharon region.
 - c. Jerusalem Metro. Area
 - d. Haifa Metro. Area
 - e. Be'er Sheba Metro. Area
 - f. Northern Israel (outside Haifa metro.)
 - g. Southern Israel (not including Be'er Sheba)
 - h. Low lands (south central Israel)
 - i. Other

6. What are the main challenges/problems associated with TAMA 38? (Please mark only 6 items):

<ul style="list-style-type: none"> <input type="radio"/> Over densification \ burdens on existing infrastructure. <input type="radio"/> Harming localities' financial situation. <input type="radio"/> The design\ architecture of the resulting project. <input type="radio"/> Quality of apartments. <input type="radio"/> Gentrification. <input type="radio"/> Taxation. <input type="radio"/> Lack of available information. <input type="radio"/> Unclear provisions of the TAMA plan. <input type="radio"/> Unclear policy of the municipal government. <input type="radio"/> Other (please specify). 	<ul style="list-style-type: none"> <input type="radio"/> Apartment owners use their alleged veto rights to extort certain benefits. <input type="radio"/> Objections of nearby owners (from other / adjacent plots) <input type="radio"/> Objections of owners from the same building / plot <input type="radio"/> Power imbalance between developer and owners. <input type="radio"/> Lack of sufficient incentives. <input type="radio"/> Too many incentives. <input type="radio"/> Financial risks incurred by the developer. <input type="radio"/> Lack of professional guidance to flat owners. <input type="radio"/> Difficulties of flat owners to organize and move the project forward.
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7. Was the TAMA policy successful in securing the public interest by making buildings earthquake-ready?

Not sure / Do not know	Not successful at all	It has had a limited success	Successful to a certain degree	Very successful
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8. In cities that frequently approve TAMA38 projects, was the TAMA policy successful in enabling urban regeneration?

Not sure / Do not know	Not successful at all	It has had a limited success	Successful to a certain degree	Very successful
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9. Do you agree that the TAMA-38 policy has secured the interests of private apartment owners?

Not sure / Do not know	Strongly Disagree	Disagree	Somewhat agree.	Strongly agree.
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10. Do you agree that the TAMA-38 policy has secured the interests of developers and entrepreneurs?

Not sure / Do not know	Strongly Disagree	Disagree	Somewhat agree.	Strongly agree.
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11. Does the TAMA serve local or national interests?

- a. National
- b. Local
- c. Both interests are served equally.
- d. Not sure/ do not know.

12. In your opinion, who should help protect buildings against future earthquakes?

- a. Central government, using its own budget.
- b. Central government, by creating value uplift and relying on developers to fulfil the task.
- c. Local governments, using their own budget.
- d. Local governments, by creating value uplift and relying on developers to fulfil the task.
- e. Apartment owners themselves.

13. Do you agree that the TAMA-38 policy has been a success story?

Not sure / Do not know	Strongly Disagree	Disagree	Somewhat agree.	Strongly agree.
------------------------	-------------------	----------	-----------------	-----------------

14. Do you believe local government should charge betterment taxes in TAMA 38 projects?

- a. Yes.
- b. No.
- c. Only in certain situations (please specify).
- d. Do not know.

15. What is the major output of TAMA 38 projects?

- Urban renewal.
- Earthquake preparedness.
- Urban densification.
- Other (please specify).
- Uncertainty in the housing market.
- Enlarging flats and improving the quality of living.
- Extending the gap between central and peripheral townships in Israel.

16. How long does it take you to complete a TAMA 38 projects, from its inception (first meeting with flat owners)?
- a. 1-2 years.
 - b. 3-4 years.
 - c. 5-6.
 - d. More than 7.

17. On average, how many TAMA 38 projects materialize (a project which did not materialize is one in which money and time were invested, but the project was never completed)?
- a. One out of three projects.
 - b. One out of 4-6.
 - c. One out of 7-10.
 - d. One out of 11 or more.

18. Can you empathize with / understand a local government which does not encourage TAMA 38 projects?

Not sure / Do not know	Cannot empathize	I have limited empathy	Somewhat empathize.	Strongly empathize.
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19. What is the major reason for apartment owners to push forward a TAMA 38 project?
- o Exterior renovations including the building's amenities.
 - o Earthquake preparedness.
 - o Adding a MAMAD ('Protected Apartment Space'- a special room which can withstand direct rocket fire).
 - o The wishes of owners to add to the value of their asset.
 - o Addition of floorspace to their apartments (beyond the floorspace of a MAMAD).
 - o Other (please specify).

20. What is the major reason for apartment owners to reject a TAMA 38 project?
- o Do not a developer to add flats to the existing building.
 - o They believe that the total benefits are not worth it.
 - o They do not want to do through the entire process.
 - o Lack of trust between apartment owners and other stakeholders (e.g. the developer or other owners).
 - o Other (please specify).

21. Can you empathize with / understand a single apartment owner who refuses to sign a TAMA 38 agreement (the refusing owner syndrome)?

Not sure / Do not know	Cannot empathize	I have limited empathy	Somewhat empathize.	Strongly empathize.
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22. What is the main reason for an apartment owner to refuse to participate in a TAMA 38 project ('the refusing owner syndrome')?
- a. Improving his bargaining position / wanting more money or a better deal.
 - b. Lack of trust (towards developer or other flat owners in the same building).
 - c. His old age or other factors contributing to his reluctance to go through the process.
 - d. Other (please specify).

23. Can we contact you in the future?

Appendix C: Questionnaire for Local Government Staff

Same as above in Appendix B, excluding questions no. 4, 16–17, but with additional questions:

- How many building permits have been issued by your city, from the inception of the TAMA?
 - a. Very few.
 - b. 5-10.
 - c. 11-20.
 - d. 21-50.
 - e. 51-80.
 - f. Over 80.
 - g. Unsure/ do not know.

- According to your local policy, are there certain buildings \ areas in which owners cannot pursue a TAMA project?
 - a. No.
 - b. Yes (please specify).

- Does your local planning authority encourage TAMA 38 projects?
 - a. No.
 - b. Yes
Please specify: _____

- Does the plan impact the number of buildings being renovated in non-TAMA tracks?
 - a. No.
 - b. Yes, to a large extent.
 - c. Yes, to a certain extent.
 - d. Unsure / do not know.
Please note additional details: _____

Appendix D: Questionnaire for Apartment Owners in TAMA 38 Projects

Same as above in Appendix B, excluding questions no. 2–4, 16–17, but with additional questions:

- What is the TAMA track you are pursuing?
 - a. Additions to existing building.
 - b. Demolition and rebuilding.

- What is the status of the project you are pursuing?
 - a. Preliminary negotiations with a developer.
 - b. Signed contract, before issuance of a building permit.
 - c. Project under construction.
 - d. Project is already completed.

- To the best of your knowledge, has the value of your apartment increased as result of the TAMA project?
 - a. No.
 - b. Yes, to a large extent.
 - c. Yes, to a certain extent.
 - d. Yes, but not significantly.
 - e. Unsure/ do not know.

- Would you go through the project once again?
 - a. Yes, definitely.
 - b. Maybe.
 - c. No.
 - d. Unsure / do not know.

Appendix E: Cases in Which a Planning Application was Rejected By Local Planning Authorities

Appeal No.	City	Reasons for rejection									
		Parking	Building in historic district	Bulk \ height	Building lines	No. of flats \ densities	Existence of a detailed master plan	Owners' consent	Neighbors' objections	Developer requires more floorspace than permitted	Uprooting trees & vegetation
14/448	Haifa			■					■		
5262/16	Givatayim					■					
281/15	Netanya	■									
608/15	Rishon LeZion						■			■	
451/14	Haifa		■								
5383/15	Ramat Gan			■					■		
5138/16	Givatayim				■						
165/14	Petah-Tikva			■					■		
5393/13	Tel Aviv	■									
12/5173	Tel Aviv				■				■		
5406/13	Tel Aviv	■									
5068/12	Givatayim								■		
18/03/1025	Givatayim				■				■		
15/5457	Givatayim						■				
6015/16	Ramat Gan		■							■	
314/15	Jerusalem							■			
5154/17	Tel Aviv			■					■		
223/14	Nahariya	■				■			■		
330/15	Haifa										
5059/17	Givatayim				■				■		
11/92	Haifa										
5273/14	Tel Aviv			■			■				
15/5465	Ramat Gan					■					
08/273	Haifa								■		
1011/18	Holon			■					■		
5255/15	Tel Aviv				■				■		
5076/11	Ramat Gan	■			■						
1-430/10	Jerusalem								■		
5123/10	Tel Aviv	■							■		
5440/09	Tel Aviv								■		
5233/09	Tel Aviv			■					■		
5406/13	Tel Aviv	■								■	

Source: Select appeal decisions as published in the Israeli legal database (nevo.co.il).