

ASSESSING THE PERCEIVED FAIRNESS OF A PROPERTY TAX BY A TAXPAYER SURVEY: THE CASE OF RESIDENTIAL ARNONA TAX IN ISRAEL

Mordekhay Mintz^{*1}, Boris A. Portnov¹

¹ School of Environmental Sciences, University of Haifa, Haifa, Israel, (MM) e-mail: motymi@yahoo.com, ORCID: 0000-0003-4997-6672; (BAP) e-mail: portnov@research.haifa.ac.il, ORCID: 0000-0003-1537-0832

* Corresponding author

ARTICLE INFO	ABSTRACT
Keywords: property tax, taxpayers, environmental quality, municipal services, social equity	Understanding taxpayer perceptions of a property tax system is essential for developing equitable and transparent fiscal policies that foster public trust. This study explores public attitudes toward Israel’s residential property tax system, also known as Arnona, through an online survey of more than 500 participants, stratified by region of residence, age, income, family status, and homeownership. Although the survey participants were divided regarding the preferred basis for property taxation – a property value - (ad valorem) vs. property size (Arnona) based system, the majority of respondents (~55%) favored the current system, and ~45% supported its value-based alternative. The survey also revealed a wide support for integrating environmental factors into tax assessments, with approximately 75.9% of the survey respondents supporting the idea of incorporating green space access into property tax assessments, and 62.8% of the survey respondents supporting accounting for air quality. Support was even stronger for service-related criteria, with 91.3% of participants supporting the idea of linking the tax rates to the quality of municipal services. However, substantial differences emerged regarding the incorporation of the socioeconomic status of taxpayers into tax calculations. Although 59% of low-income respondents favored this idea, only 33% of high-income respondents supported it. In general, the study underscores the growing public demand for tax models that reflect environmental quality and quality of services, rather than linking property taxes to incomes.
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1. Introduction

A fair and transparent property tax system is fundamental to the economy and society as it enables local governments to provide critical goods and services for the local population, such as waste management, street lighting, cleaning, infrastructure maintenance, education and healthcare (Norregaard, 2013; Gyourko & Molloy, 2015). On the contrary, when a tax system is perceived as unfair, it can undermine public trust, foster resentment, and lead to tax evasion (Luttmer & Singhal, 2014).

Although property taxes are important sources of municipal income that help sustain vital services (Ingram & Hong, 2011), if these taxes are not aligned with the public expectation of fairness, they alienate

taxpayers, reduce compliance, and weaken cooperation between citizens and the local government (Thomas, 2021). On the contrary, equitable and transparent property taxation helps to foster trust, improves residential satisfaction, and contributes to the financial sustainability of municipalities (Norregaard, 2013).

Globally, property taxation systems vary widely. The most common model is the ad valorem system, which links tax rates to the market value of properties (Franzsen & McCluskey, 2017). In contrast, area-based systems rely on the physical size, functional use, and location of properties as the primary criteria for tax estimation (Slack & Bird, 2014). The Israeli municipal property tax, known as Arnona, exemplifies such an area-based system: tax obligations are determined

according to the property's floor area, designated use, and location (i.e., tax zone), rather than its market value (Likhovski, 2017). This distinctive approach makes the tax simpler to administer, but, at times, more contentious in terms of perceived fairness.

Previous studies of the Arnona tax system have explored its estimation mechanisms (Perez, 2020), administration (Horne & Felsenstein, 2010), efficiency of tax collection, and fiscal implications (Portnov et al., 2001; Mintz & Portnov, 2023). However, to date, there have been no studies carried out that assessed the public perception of the tax system, especially in relation to its value-based alternatives which are currently under discussion (Thomas, 2021). The present study aims to bridge this knowledge gap by evaluating how taxpayers in Israel perceive the Arnona system in terms of its socioeconomic equity and environmental justice, and how they compare it with an ad valorem alternative.

Although the Arnona system of property taxation is specific to Israel, its relevance extends beyond the local context. As a taxation model based on property size and location, Arnona shares similarities with property tax systems in various regions worldwide, such as those used in parts of India and Eastern Europe (Slack, 2013). As a result, lessons learnt from the Arnona system and its potential improvements may be informative for countries where municipal property taxation is also based on physical attributes of properties, rather than on property values.

Aligning property tax systems with sustainable development goals is a globally debated issue (Bahl et al., 2010), and researchers increasingly advocate tax systems that reward environmental stewardship and reflect the quality of municipal services (Kelly, 2014). In this context, taxpayers' attitudes toward integrating metrics such as air quality, access to green spaces, and infrastructure standards into tax calculations can inform reforms, if such reforms are needed or planned. However, even in places where ad valorem systems are used, environmental attributes may not be accurately reflected in property values. Empirical evidence suggests that this relationship may be weak or inconsistent, especially in contexts where markets are imperfect or valuations outdated (Hilber, 2017). Moreover, market stakeholders are not always aware of the objective environmental attributes of places and often rely on subjective perceptions that are not always accurate (Berezansky et al., 2010).

2. Background studies

The way citizens perceive and accept property tax systems is shaped by a combination of intertwined influences. These include how equitable the system seems, the clarity of its application, its socioeconomic implications, and the extent to which tax revenues translate into tangible public services (Naslia & Yulianti, 2024; Freedman, 2018). Thorough knowledge of these components is crucial for shaping policies that build public confidence and encourage tax compliance.

Taxpayer attitudes are significantly shaped by their sense of whether a system is fair. As Likhovski (2017) observes, when taxes are viewed as just and proportional, people are generally more inclined to accept them. For many, fairness also depends on how transparently local authorities manage the funds collected, and whether the tax burden is distributed reasonably (Iyer, 2013). In their study, Luttmer and Singhal (2014) find that compliance tends to improve when citizens can see the results of their contributions in the form of enhanced municipal services. Conversely, confusion or doubts about how funds are allocated can damage trust and reduce willingness to comply (Alm & Torgler, 2011).

2.1. Comparison Between Area-Based and Value-Based Taxation

Recent studies of property tax systems emphasize the ongoing debate between area-based (e.g., floor area taxation) and value-based (ad valorem) approaches. In Poland, where traditional area-based systems persist, Felis et al. (2025) propose a hybrid model that introduces tax zones aligned with local socioeconomic characteristics, aiming to improve both equity and administrative feasibility. At the same time, research shows that such systems may be vulnerable to political manipulation; Małkowska et al. (2020) demonstrate how Poland's property tax arrangements are influenced by electoral cycles, raising concerns about fairness and stability. More broadly, post-2013 reforms across Eastern Europe and the Baltic countries have highlighted both opportunities and challenges in modernizing immovable property taxation. Blöchliger and Diagne (2023) point to ongoing fiscal and administrative difficulties, but also to potential reforms that could enhance efficiency and equity. Taken together, these insights reinforce the rationale for examining the equity of the Arnona system in Israel, while situating it within wider international debates on property tax design and reform.

2.2. Environmental Considerations

Environmental quality - including factors such as access to green spaces and clean air - has become increasingly relevant to discussions about fair taxation. Multiple studies have shown that people's willingness to pay is often influenced by how tax money supports the local environment (Johansson et al., 2008; Slemrod, 2006; Mintz & Portnov, 2023). When tax revenues are invested in maintaining public parks or improving environmental health, they tend to gain broader public support.

2.3. Socioeconomic Equity

The design of tax frameworks has long-term implications for social equity. As Bird and Slack (2004) discuss, concerns about the regressive nature of property taxation are long-standing, particularly when tax liabilities are tied solely to property values. However, the perception of regressivity is not necessarily confined to lower-income households. Later works (e.g., Norregaard, 2013; OECD, 2022) highlight that such claims are also voiced by higher-income taxpayers, often as part of political or rhetorical opposition to property taxation. To counter these concerns, tax structures may need to include socioeconomic modifiers or exemptions to enhance equity while ensuring adequate revenue.

2.4. Quality of municipal services

Taxpayer satisfaction is known to be closely related to the quality of municipal services funded by taxes. As Mintz and Portnov (2023) demonstrate, high-quality public amenities - such as parks, recreational centers, and cultural venues - can enhance property values (Crompton, 2005; Gibbons et al., 2014), which in turn may lead to higher tax gains for municipalities if an *ad valorem* system of property taxation is applied. Slack and Bird (2014) also emphasize that linking property taxes to tangible community improvements can significantly boost taxpayer satisfaction, highlighting the importance of visible returns on tax contributions.

2.5. Knowledge gap

Despite substantial research, only a handful of studies (e.g., Journey et al., 2017; Sadjarto et al., 2021) examined the attitudes of taxpayers towards local taxation. Furthermore, the role of social and cultural differences and their influence on tax perception remain underexplored (Siddique, 2024). Limited attention has also been paid to the integration of metrics, linked to environmental indices and service

quality, into property tax systems, although several studies point out that incorporating these elements could significantly enhance the fairness and efficiency of property tax systems (Saad, 2011; Andriani et al., 2024). The present study aims to bridge these knowledge gaps, using the Arnona tax system as a case study. The goal of the study is twofold: a) to investigate the public perception of the Arnona tax system and compare it with an *ed valorem* alternative, and b) to determine the degree of perceived fairness of the Arnona tax system, and potential ways of improving it.

3. Study method and data sources

3.1. The Arnona tax system

The Arnona system of taxation originates from the British pre-1948 mandate period and levies municipal taxes based on three main factors – property size, functional use, and location (Likhovski, 2017). According to Mintz & Portnov (2023), the rates of the tax are calculated as follows.

$$Arnona_{ijk} = S_{ij} * R_{jk}, \quad (1)$$

where S_{ij} is floor area (m^2) of property i used as j (that is, residential properties, banks, commerce, industry, undeveloped land, etc.), located in the tax rate zone k , with tax zones determined differentially for separate neighborhoods in large cities, according to the socioeconomic status (SES) of the area and local development priorities, and R_{jk} is the tax rate.

According to the Arnona law, enacted in its current form in 1970, local municipalities are authorized to determine Arnona rates separately for residential and nonresidential uses, according to the government-prescribed guidelines on the permitted minimal and maximal rates for each type of use, and linked to CPI, the consumer price index (Perez, 2020). As a result, Arnona rates significantly vary throughout the country, and taxpayers often struggle to understand how its rates are determined, leading to perceptions of arbitrariness and inconsistency (Likhovski, 2017). The problem is exacerbated by the socioeconomic disparities among municipalities that lead to a common perception that areas with low-income populations but with greater service demands bear a disproportionate tax burden (Mintz & Portnov, 2023).

3.2 Research survey

The survey, whose results are reported in the rest of this paper, was conducted using an online questionnaire distributed through popular social

media platforms, Facebook and WhatsApp. Potential survey participants were identified and approached using targeted advertisements and personal invitations shared through community group administrators. The inclusion criteria were: the age of 18 years or older, ownership or renting a residential property at present, and Hebrew language proficiency to complete the questionnaire. The responses of the respondents who did not complete at least 80% of the survey questions were excluded from the analysis to ensure its consistency and validity.

The sample size was determined using a statistical power analysis (Cochran, 1977), to achieve a confidence level of 95% with a margin of error of 5%. Based on Israel's population of approximately 9.5 million (World Bank, 2024), the minimum required sample size was calculated as 385 participants. However, to account for potential non-responses and not questionnaires which had not been filled out completely, the survey size was extended to 500+ participants. The survey approach is based on self-selection, which limits the representativeness of its results as they reflect the views of respondents who chose to participate in the survey voluntarily, rather than being drawn at random from the pool of the taxpayer population. The representativeness of the sample was also validated *a posteriori* by comparing key demographic attributes (such as age, income, and region of residence) with benchmarks provided by the Israeli Central Bureau of Statistics (ICBS, 2024) and found to be fairly representative (see *Appendix 1*).

The online survey was administered using Google Forms (Google, 2023), which ensured ease of access and user-friendly participation for people using a variety of devices, including smartphones and computers.

Taxpayer knowledge about the functioning of the property tax system and the differences between alternative designs (such as area-based versus value-based systems) might be limited, which could have an influence their responses. Therefore, the survey respondents were provided with a brief explanation of both systems before answering.

The survey questionnaire included *five* main questions on the following topics: a) general satisfaction with the Arnona property tax system and its comparison with an *ad valorem* alternative; b) possibilities of incorporating socioeconomic status (SES) into property tax calculations; c) possibilities of incorporating environmental variables into tax calculations; d) possibilities of incorporating the

quality of municipal services into tax calculations, and e) socio-demographic attributes of the survey participants (age, income, religious affiliation, homeownership status, etc.). The questionnaire used in the study is reported in Appendix 2.

3.3. Research Hypotheses

According to previous studies, taxpayers primarily emphasize fairness and transparency in taxation policies (see, e.g., Likhovski, 2017; Luttmer & Singhal, 2014), but also place emphasis on environmental quality (Hilber & Robert-Nicoud, 2013; Slemrod, 2006). Therefore, we assume that perceptions of fairness will primarily depend on the factors directly affecting household welfare, and our first hypothesis is as follows:

H1₀: There is *no* significant relationship between taxpayer attitudes towards the property tax and the perceived environmental quality of the area. Alternatively:

H1₁: There is a significant relationship between taxpayer attitudes towards the property tax system and the perceived environmental quality of the area.

As previous studies also show, the quality of services that the local municipality provides is often emphasized by taxpayers (González-Navarro & Quintana-Domeque, 2015). Therefore, our second hypothesis is:

H2₀: There is *no* significant relationship between taxpayers' attitudes towards the property tax and the perceived quality of services which the local municipality provides. Alternatively:

H2₁: There is a significant relationship between taxpayer attitudes towards the property tax and the perceived quality of services which the local municipality provides.

As previous studies show that sociodemographic characteristics, such as age, income, and geographic location, significantly influence public attitudes toward property taxation and perceptions of tax fairness (Luttmer & Singhal, 2014; Kelly, 2014), we also hypothesize that there should be significant differences in the perceptions of the Arnona tax among different taxpayer groups, stratified by age, region of residence, and income level:

H3₀: There are no significant differences in the perceptions of the Arnona tax among different taxpayer groups, such as age, region of residence, and income level. Alternatively:

H3₁: There are significant differences in the perceptions of the Arnona tax among different taxpayer groups, stratified by these factors.

3.4. Statistical analysis

The study used a mixed-methods quantitative approach. Following an initial descriptive analysis of the overall response patterns, inferential statistical techniques were applied to test for associations between the survey items and the sociodemographic characteristics of the respondents. Specifically, to assess the influence of these variables on attitudes toward specific tax-related proposals, such as incorporating environmental or service-related factors into tax calculations, the study used ordered logistic regression (OLR). This model allows for the identification of statistically significant predictors while accounting for the ordinal nature of the survey responses.

4. Results

4.1. General Trends

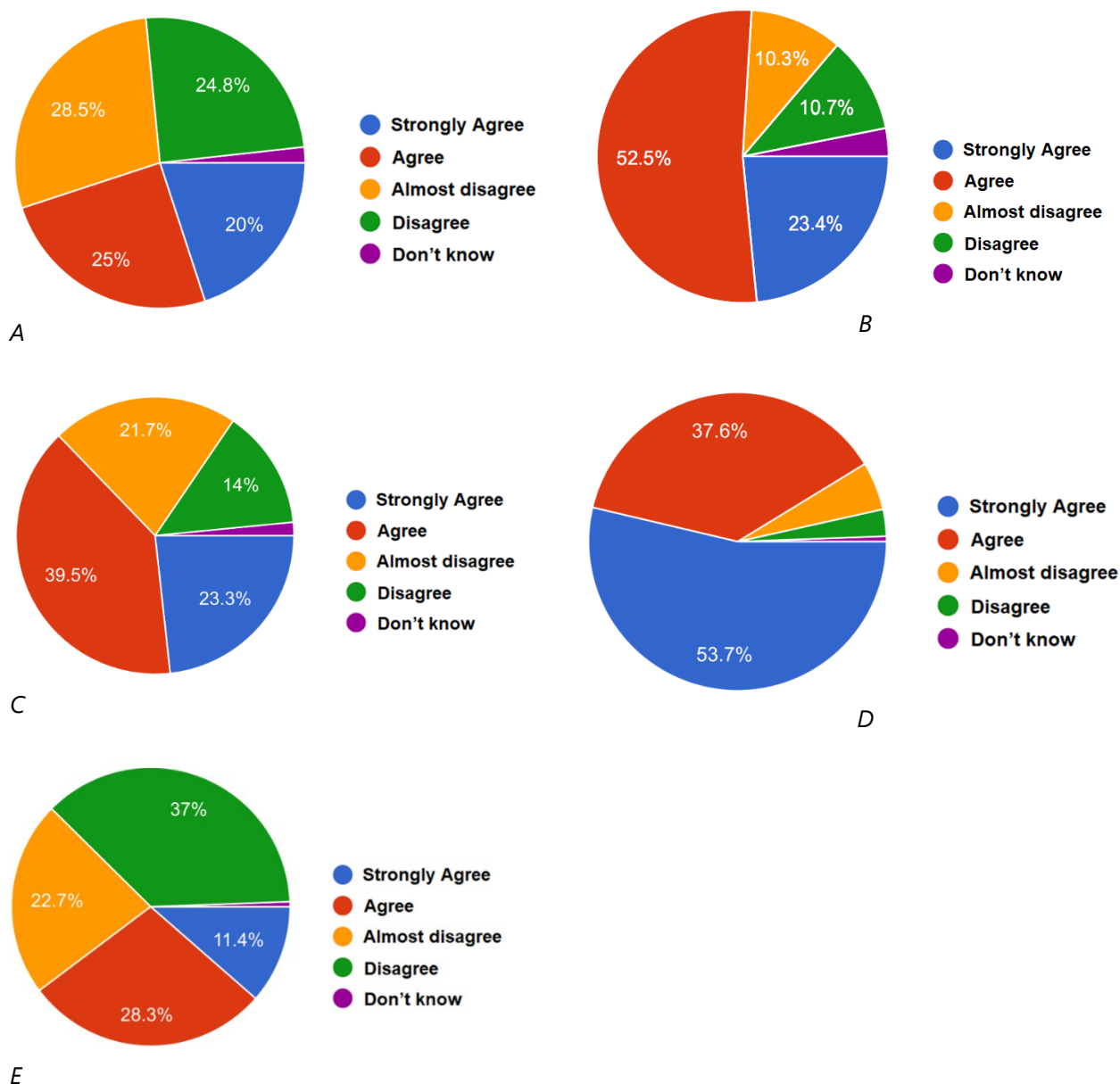
Figure 1 presents the distribution of the responses to key survey questions on public preferences for the basis of the property tax, and survey respondents' perceptions of its fairness. As Figure 1A shows, the majority of respondents (~55%) express support for the *current* tax system, which is based on the size, location, and usage, and only ~45% of the respondents favor or strongly favor switching to its value-based alternative (i.e., an *ad valorem* system). This suggests that, contrary to recommendations made by several scholars and international organizations that advocate valuation-based systems to enhance tax equity and efficiency (cf., e.g., Bahl et al, 2010; Slack & Bird, 2014), the majority of the survey respondents do not appear to support this idea. As Figure 1B further shows, ~76% ("agree" or "strongly agree") of the survey respondents support linking Arnona rates to environmental and municipal factors, measured by the number of nearby parks and green areas. In addition, ~63% support the idea of linking tax

rates to local air quality (Fig. 1C), and ~91% express support for adjusting Arnona rates to the quality of services provided by the local municipality (Fig. 1D). However, only ~40% of the participants support the idea of adjusting the Arnona tax based on the socioeconomic status of the property owner (Fig. 1E), thus implying hesitation toward an income or wealth-based system of taxation.

4.2. Differences between groups

Table 1 presents the differences in the responses to key Arnona-related survey questions, stratified by key sociodemographic characteristics, including age, region of residence, and income level estimated using ordered categorical regression (Field, 2013). As Table 1 shows, statistically significant differences ($p < .05$) were observed primarily for age and income, with a more limited variation associated with the place of residence (region). In particular, support for transitioning from the Arnona system to the *ad valorem* property tax model is significantly lower among younger respondents (20–60), compared to those aged 60 and above, which is indicated by negative regression coefficients in the previous age group ($b = -0.415$ and $b = -0.348$; $t = 3.455$ and $t = 2.981$; $p < .05$). Similarly, individuals with average income are less supportive of the *ad valorem* model than low-income respondents ($b = -0.728$, $p < .01$).

The most pronounced differences between the groups emerged in response to the question of whether Arnona should reflect the socioeconomic status (SES) of the property owner. While younger respondents support this idea ($b = 0.784$; $t = 11.560$; $p < 0.01$), respondents with an average or above-average income clearly oppose it ($b = -1.069$ and $b = -0.958$, $t = 17.297$ and $t = 16.703$; $p < .001$). In particular, when evaluating attitudes towards incorporating environmental factors - such as greenery and air pollution - into the Arnona calculations, no statistically significant differences emerged between different groups of respondents, stratified by age group or region of residence ($p > 0.1$).



A - Should the rates of the Arnona tax be related to the property market value? B – Should the Arnona tax be related to the number of gardens and parks around the properties? C- Should the rates of the Arnona tax be related to the quality of the air around the properties? D. Should the rates of the Arnona tax be related to the quality of services we get from the local authority? E- Should the rates of the Arnona tax reflect the socioeconomic level of the property owner?

Fig. 1. Summary of responses to the survey questions. Source: own study.

Table 1

Differences in answers across different groups of survey participants (method: ordinal categorical regression)

Factor	Survey question (dependent variable)									
	Arnona vs. ad valorem system		Accounting for greenery		Accounting for air pollution		Accounting for the quality of municipal services		Accounting for SES of the property owner	
	B ^a	Wald ^b	B	Wald	B	Wald	B	Wald	B	Wald
Age group (ref.=60+)										
20-40	-0.415	3.455*	0.14	0.375	-0.024	0.011	-0.054	0.049	0.784	11.560***
40-60	-0.348	2.981*	-1.91	0.866	-0.073	0.129	-0.14	0.396	0.530	6.418**
Region of residence (ref.=TA)										
Center	0.143	0.425	-0.203	0.819	0.009	0.002	-3.353	2.052	-0.096	0.181
North	0.041	0.021	0.224	0.609	-0.225	0.637	0.044	0.019	0.116	0.164
South	0.451	2.459	-2.4	0.673	0.125	0.186	-0.7	4.976*	0.234	0.646
Income level (Ref.=Low)										
Above average	-0.225	0.967	0.15	0.409	-0.433	3.503	0.469	3.596	-0.958	16.703***
Average	-0.728	8.409**	-0.213	0.697	-0.115	0.207	0.43	2.504	-1.069	17.297***
Intercepts										
a1	-1.479	25.206	-2.246	50.736***	-2.144	48.522***	-3.723	85.044***	-0.834	7.877*
a2	-0.201	0.492	-0.997	11.250***	-0.87	8.837**	-2.614	57.676***	0.214	0.525
a3	-0.131	0.207	-0.951	10.259***	-0.802	7.529**	-2.536	55.047***	0.24	0.662
a5	1.08	13.658	0.902	9.255**	0.956	10.615***	-0.187	0.353	2.032	42.888***
-2 Log Likelihood	438.664		374.5		412.083		258.37		362.188	
Chi-Square	20.444**		11.28		10.358		27.243**		75.451***	

^a regression coefficient; ^b Wald-statistic; ** indicates a 0.01 significance level; * indicates a 0.05 significance level;

Source: own study.

5. Discussion

This study evaluates public perceptions of fairness in Israel's Arnona property tax system, focusing on whether elements such as environmental quality, municipal service delivery, socioeconomic status, and market value should influence Arnona rates. The findings reveal substantial public support for incorporating environmental and service-related indicators into the tax framework. A large majority of the respondents favored linking Arnona rates to the availability of green space and the quality of municipal services, reflecting a growing desire for taxation systems that are responsive to quality-of-life factors. In contrast, opinions are more divided on the question of socioeconomic-based tax adjustments, with lower-

income and younger respondents showing stronger support for redistribution, while middle- and high-income groups expressing clear opposition.

These results have important policy implications. First, the public's receptiveness to environmental and service-related tax criteria suggests that municipalities could consider integrating such factors into rate-setting mechanisms, either through direct calculation formulas or targeted rebates. Such changes would align fiscal policy with environmental justice and service accountability. However, the data also caution against a one-size-fits-all approach to progressive taxation; the lack of broad consensus on SES-based adjustments implies the need for careful communication and phased implementation if such policies are pursued.

5.1. Evaluation of hypotheses

The study tested three hypotheses regarding the relevance of environmental quality, municipal service levels, and sociodemographic variation in shaping public attitudes toward Israel's Arnona property tax system. Regarding the first hypothesis (H1₁), which suggested that perceptions of the Arnona tax would be significantly influenced by perceived environmental quality - such as greenery or levels of air pollution, regression analysis revealed no statistically significant differences between age, income, or regional groups for these variables ($p > 0.1$ in most models). This outcome supports the null hypothesis (H1₀), indicating that environmental factors are valued across all population segments, and do not significantly vary between them. This finding suggests that although many respondents expressed support for environmental considerations in the descriptive results, these preferences are broadly shared between groups, resulting in low variance and minimal explanatory power in regression terms.

In contrast, evidence in support of the second hypothesis (H2₁) that perceptions of municipal service quality are significantly associated with tax attitudes was stronger. The regression results showed a greater variation in attitudes towards linking Arnona with the quality of municipal services, particularly among respondents from the southern region, who were significantly less supportive ($B = -0.700$, $p < 0.05$). This supports the idea that perceived service disparities influence taxpayer sentiment and lends credence to the theory of 'tax-service equivalence' (Jimenez & Iyer, 2016), which holds that legitimacy in taxation increases when citizens perceive clear returns for their payments.

The third hypothesis (H3₁), which predicts significant differences in tax perceptions between demographic groups, received the strongest empirical support. The regression models showed pronounced variation, especially in relation to the inclusion of socioeconomic status (SES) in the Arnona assessments. Younger respondents (20-40 years of age) demonstrated strong support for SES-based adjustments ($B = 0.784$, Wald = 11.560, $p < 0.01$), while those with average or above average income expressed strong opposition ($B = -1.069$ and -0.958 , respectively; both $p < 0.001$). These results confirm that attitudes toward redistributive tax mechanisms are deeply stratified along age and income lines, affirming H3₁ and highlighting the political and ethical complexity of tax equity reforms.

In summary, the findings support H2₁ and H3₁, while giving no empirical support to H1₁, thus providing a nuanced picture: While environmental and service-related variables are broadly endorsed in principle, only service quality produces differentiated attitudes across groups. Meanwhile, sociodemographic factors, particularly income and age, - emerge as critical drivers of opinion, especially concerning equity-based tax adjustments.

Finally, attitudes toward incorporating socioeconomic status into Arnona calculations revealed the strongest group-level differences. Younger respondents (ages 20-40) expressed greater support, while respondents with average or above average income opposed the idea, thus supporting H2₁ and indicating that redistributive tax mechanisms remain contentious across income levels.

In particular, the majority of the respondents (55%) prefer the current Arnona model, which is based on property size, location and use, over a market-value-based (ad valorem) system. However, strong support emerged for integrating environmental and service-related factors into the tax formula, with 75.9% favoring the inclusion of green space availability, 62.8% supporting the incorporation of air quality, and 91.3% endorsing the linkage of tax rates to municipal service quality. In contrast, only 39.7% supported factoring in the socioeconomic status of property owners, indicating limited public support for redistributive elements in the Arnona system.

While empirical studies directly comparing public attitudes toward Arnona and ad valorem tax systems in Israel are scarce, the findings of this study align with broader international literature on property taxation and public perceptions of fairness. For example, Luttmer and Singhal (2014) found that perceptions of fairness and the visibility of public benefits strongly influence taxpayer satisfaction, a result mirrored here, where support for integrating municipal service quality into Arnona was remarkably high (91.3%). Similarly, the generational divide observed in this study, with younger respondents favouring more equity-based taxation, echoes findings from Beeri et al. (2022) and Jimenez and Iyer (2016), who reported that younger or more civically engaged populations tend to support progressive tax policies and social justice principles. However, a key point of divergence lies in resistance to redistributive taxation among higher-income groups. While this trend is consistent with rational choice models of taxation (see, e.g., Feld & Frey, 2002), previous studies on Israeli tax attitudes have not

consistently highlighted such a clear income-based divide in property tax contexts. Furthermore, the limited significance of regional variables, in addition to the dissatisfaction of southern residents with linking tax to service quality, suggests a more homogeneous national tax sentiment than observed in other jurisdictions (see, e.g., Bahl et al., 2010, who found variation in property tax outcomes among cities as influenced by administrative, institutional, and valuation differences). Such variation reflects differences in local government capacity, enforcement practices, and valuation methods, which can significantly shape both revenue performance and taxpayer perceptions.

In terms of environmental concerns, the broad support for integrating greenery and air quality into Arnona resembles the findings from *Banzhaf & Lavery (2010)*, who demonstrated public willingness to internalize environmental factors in local taxation. However, unlike in some US contexts, where these preferences tend to correlate with political ideology, this study found little sociodemographic polarization around environmental measures implying a more universal acceptance of environmental justice principles in the Israeli context.

In summary, the study findings confirm many established insights from the international literature while offering new evidence from an understudied system. They highlight both commonalities, such as the influence of perceived fairness and age, and distinct national patterns, including relatively uniform support for environmental taxation and the unique structure of the Arnona model itself.

5.2. Policy Implications

The widespread public backing for environmentally conscious property taxation aligns with global trends advocating for sustainability in fiscal governance. Research consistently shows that taxpayers are more willing to accept levies when these are linked to visible public improvements and ecological stewardship (Slemrod, 2006; Chay & Greenstone, 2005). People value clarity and fairness in taxation - particularly when accompanied by dependable municipal services and a cleaner environment. Policymakers would do well to incorporate such preferences into future tax designs. For instance, Arnona rates could be adjusted based on proximity to urban greenery or pollution exposure, while rebates might be tied to documented upgrades in local service delivery. These insights reinforce the principle of tax-service reciprocity, as articulated by

Jimenez and Iyer (2016) and further supported by Luttmner and Singhal (2014), which suggests that when the use of tax revenues is transparent and beneficial, public trust increases. In the Israeli context, the strong support for linking Arnona with service outcomes affirms this theory. In our view, improved service quality might justify higher tax contributions. At the same time, we note that the two approaches are functionally equivalent: granting rebates in areas with lower service quality effectively mirrors imposing higher taxes in better-served areas. Accordingly, policymakers may consider applying rebates in poorly served municipalities or neighborhoods, thereby achieving the same distributive outcome while strengthening perceptions of fairness.

Support for adjusting Arnona based on socioeconomic factors, however, is notably more divided. While some view it as a tool to advance fairness, Slack and Bird (2014) emphasize that equity is better promoted through relief schemes for low-income taxpayers, rather than through progressive rate structures. Others, however, perceive socioeconomic adjustments as burdensome or difficult to implement. Therefore, any move toward enhancing equity should be grounded in transparent procedures and shaped through inclusive public dialogue.

Regarding market value as a tax basis, public opinion reflects a broader dilemma between objective valuation and contextual fairness. Although value-based taxation may offer consistency, it risks ignoring localized inequalities - such as differing income levels or access to services. Hybrid models that blend market assessments with indicators like infrastructure quality or green space access may offer a more balanced and publicly acceptable alternative (Kelly, 2014).

At the core, trust, transparency, and public involvement remain essential. Efforts to reform property taxes must be aimed not only at economic efficiency but also at aligning policy with citizen expectations. Communicating clearly how Arnona revenues are used, and how reforms address public concerns, will be key to building compliance and fostering civic engagement. Under a market value-based system, improved access to public services is typically capitalized into higher property values, though not necessarily. For instance, capitalization may be limited when property markets are imperfect or segmented, households do not have full information about the quality of services, or when service improvements are not perceived as permanent

or are unevenly distributed across neighborhoods. In such cases, the benefits of enhanced services may not be fully reflected in market valuations. This adjustment is even less likely under a floor area-based system, such as Arnona, where tax rates are detached from property values.

5.3. Study Limitations

While the findings contribute important insights into taxpayer attitudes in Israel, several limitations should be acknowledged. First, the use of an online, self-selected sample may have introduced bias by underrepresenting populations without reliable internet access or with lower interest in public policy issues. Second, the survey relies on the participants' stated preferences, which may not fully capture actual behaviors - such as voting patterns or responses to real-world tax changes. Finally, the study is based on perception and statistical association, without integrating fiscal simulations to assess the feasibility of incorporating environmental or service metrics into Arnona calculations. Future research should address these gaps, possibly through model-based simulations and more diversified sampling approaches, to support actionable policy development.

6. Conclusion

This study highlights a growing public preference in Israel for reforming the Arnona property tax system by incorporating considerations of environmental quality and municipal service performance into the tax assessment process. In light of these findings, several policy directions should be considered. For instance, tax credits or differentiated Arnona rates could be introduced for properties located in areas with limited access to green space or poor air quality, thereby incentivizing environmental justice and supporting equitable urban development. Second, municipalities should integrate service satisfaction metrics into tax policy, such as linking Arnona rebates or reductions to demonstrable improvements in waste management, infrastructure, and public amenities - ensuring that taxpayers perceive a direct benefit from their contributions. Service-related adjustments or incentive mechanisms could be considered within the floor area-based framework to partially replicate this capitalization effect, ensuring that municipalities are motivated to improve service delivery while taxpayers may perceive the system as more equitable. The underlying rationale is to encourage municipalities to improve services for citizens and to enhance perceived fairness within an area-based framework. At the same

time, the findings also suggest that broad socioeconomic-based adjustments to Arnona should be approached cautiously. In particular, such reforms should be implemented only after comprehensive public consultation and clear communication about the rationale and expected outcomes, to avoid perceptions of unfairness or political bias. Mechanisms such as targeted assistance for vulnerable populations - rather than across-the-board adjustments - may be more acceptable and effective.

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Appendices

Appendix 1: Demographic and socio-economic characteristics of the survey participants

Attribute	This survey	Country population*	t-test of differences
Age:			
20-40	29.6	40.0	0.953ns
41-60	40.4	34.0	
61+	30.0	26.0	
Religious Affiliation:			
Secular	61.3	47.0	0.734ns
Ultra-Orthodox	0.1	12.0	
Religious	14.6	14.0	
Traditional	23.0	24.0	
Homeownership			
Homeowners	79.0	72.0	0.488 ^{ns}
Non-homeowners	21.0	28.0	
Income:			
Above Average	44.2	40.0	0.846 ^{ns}
Average	21.7	20.0	
Below Average	31.8	40.0	
Region:			
North	15.2	16.3	0.712ns
Center	41.7	54.0	
Tel-Aviv area	19.1	15.6	
South	24.0	14.1	

Source: ICBS (2024).

Appendix 2: Survey questionnaire

Part I The current Arnona system and environment Please state your agreement with the following statements:		strongly agree	agree	Almost disagree	disagree	Don't know
1.	The Arnona tax is socially just reflecting the socioeconomic status of the asset owner.	☐	☐	☐	☐	☐
2.	The Arnona tax reflects assets' values	☐	☐	☐	☐	☐

3.	The Arnona tax reflects the level of services provided by the local authority to its residents.	☐	☐	☐	☐	☐
4.	The Arnona tax reflect air quality in the local authority.	☐	☐	☐	☐	☐
5.	The Arnona tax reflect the amount of green space in the locality.	☐	☐	☐	☐	☐
6.	The current Arnona payment that I pay is right.	☐	☐	☐	☐	☐
7.	The current Arnona method is not right and just.	☐	☐	☐	☐	☐

Part II Recommended for changes		strongly agree	agree	Almost disagree	disagree	Don't know
1.	The Arnona tax should be related to the quality of services we get from the local authority.	☐	☐	☐	☐	☐
2.	The Arnona tax should be related to the quality of the air around the asset.	☐	☐	☐	☐	☐
3.	The Arnona tax should be related to with the amount of gardens and parks around the assets.	☐	☐	☐	☐	☐
4.	The Arnona tax should reflect the socio-economic level of the asset's owner.	☐	☐	☐	☐	☐
5.	The Arnona tax should be related only to the asset's market value.	☐	☐	☐	☐	☐
6.	The Arnona tax should be related to the asset's value or potential rental value (or rent of nearby assets).	☐	☐	☐	☐	☐
7.	I agree to pay more Arnona tax if I will get more services and better quality.	☐	☐	☐	☐	☐
8.	I prefer that the vat tax will by increase and the Arnona tax cancelled or reduced.					
9.	I prefer that the income tax will be increased while the Arnona tax will be cancelled or reduced.					

Part III Personal info

My age is: 20-40 / 40-60 / 65+
I am a Jew/Arab/other
My income is very Above Average /average/Below average.
I am bachelor/married/divorce/other
I am religious/non-religious/traditional/ ultra-orthodox.
My apartment located in region: (North, Center, Tel-aviv area, South)
I own an apartment (yes/no)