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# The social value of municipal services

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#### **Abstract**

The services provided by local authorities such as education, recreation, gardening and public cleaning, and water and sewerage are usually defined as public goods that are intended to improve their residents' quality of life. This paper helps local policy makers to achieve this goal by developing a model that evaluates the contribution of various local services to the quality of life in the community. It then uses data from the Israeli Central Bureau of Statistics to determine the optimal allocation of the community's budget. Our main result is that the local expenditures on education are most effective in improving residents' wellbeing. In addition, the expenditures on recreation, gardening and public cleaning, and water and sewerage also have a significant impact on the residents' wellbeing. Finally, we demonstrate that given the decreasing marginal utility of each service, the optimal allocation might be a simultaneous investment in these various services. Our model determines the specific optimal allocations to each service.

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#### 1. Introduction

The services provided by local authorities such as education, recreation, gardening and public cleaning, and water and sewerage are usually defined as public goods that are intended to improve

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the quality of their residents' lives. Tiebout (1956) found that local authorities compete with each other in order to attract residents by improving the community's quality of life through improved local services. Indeed, residents respond to the quality of life in a city either by moving into or out of the city, or by replacing the municipal council (Kreft, 2007).

The quality of the local services might also increase the attractiveness of the city, thus leading to an increase in the value of the real estate in the city. Dahlberg and Fredriksson (2001) analyzed 26 local authorities in Sweden and found a positive relationship between the expenditure on local public services and immigration to the city. The most important factor was the expenditure on education. Other studies also showed that the expenditure on education is a significant factor for improving the wellbeing of the residents. For example, Oates (1969) analyzed 53 local authorities in New Jersey and found that the education budget for primary and secondary schools was without a doubt the most important factor for families with children. Examining 140 schools in Ohio, Haurin and Brasington (1996) showed that a 1% increase in the achievement of the ninth grade increased house prices by an average of 0.5%, with housing prices being a proxy for the level of satisfaction of the residents. Education also emerged as a significant factor for companies when choosing where to locate (George, 1882; Malul and Bar-El, 2009).

As with education, Kreft (2007) reported a positive relationship between the total expenditures on public cleaning and police and fire services, and housing prices. Similarly, Reiff and Barbosa (2005) demonstrated that expenditures on garbage collection had a significant positive impact on real estates prices. Recreational possibilities in a city also improve residents' quality of life (Dahlberg and Fredriksson, 2001). Open public spaces such as urban forests, lakes, and public gardens make communities more attractive to newcomers (Anderson & West, 2006; Bolitzer & Netusil, 2000; Donald and Michael, 2007; Goodman, 1998; Li & Brown, 1980; Weigher & Zerbst, 1973).

Nevertheless, local services are usually financed by local taxes, which have a negative effect on the residents' wellbeing (Fischel et al., 2000; Oates, 1969). Therefore, only when the benefits that accrue to the residents are greater than the costs to them will local services have a positive effect on their quality of life. Thus, policy makers should analyze the effect of each service on the residents' wellbeing and choose the level of investment in it according to the optimal allocation among the different services.

#### 2. Hypothesis

Real estate prices may capture the utility that local public services offer to the wellbeing of residents (Dahlberg and Fredriksson, 2001). The residents' utility from each public service increases when the local authority allocates more money and effort to this service. However, the increase in utility is subject to a decreasing marginal utility. This argument is consistent with Brueckner (1981) who maintained that the asset's value as a function of the investment in a given service might have an inverted U shape. This finding implies that if a local authority chooses to invest in only one or several services, it might miss the goal of maximizing the residents' wellbeing. We hypothesize that the local authority can use information about real estate prices to allocate its budget in a way that maximizes the residents' wellbeing. This paper helps local policy makers achieve this goal by developing a model that evaluates the contribution of various local services to the quality of life in the city. It then uses data from the Israeli Central Bureau of Statistics to determine the optimal budget allocation to four areas: education, recreation, gardening and public cleaning, and water and sewerage.

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