

# Analysis of the Dynamic Developments in the Local Lodging and Rental Housing Market in Lisbon

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## Extended Abstract

### **Introduction & Problem Statement**

The housing market in Lisbon is undergoing rapid change. Following the liberalization of the rental market in Lisbon, the attraction of foreign investment and the expansion of urban tourism, the market is experiencing unprecedented dynamics in the real-estate sector (Branco & Alves, 2016). While formerly vacant buildings are renovated, the supply for long term rentals decreases and rental prices are increasing rapidly (Mendes, 2016). Tourist lodging in turn is booming and increases the competition of living spaces (Airbnb, 2016; Airbnb, 2017; Airdna, 2017). The development contradicts the governmental goals aiming to increase the residential housing supply in the historic center and thus raises the risks of tourism gentrification undermining the social sustainability of the communities and neighborhoods.

### **Research Questions & Expected Contribution**

The research explores the unintended consequences of urban rehabilitation and tourist lodging leading to a reduction of affordable housing in the city center of Lisbon. In particular, the research aims to answer the following questions:

- What are the main factors and dynamics which lead the rise of the rental prices in the city center of Lisbon?
- What are the impacts of the urban rehabilitation process and the possibility of local lodging on the supply of residential housing?

To answer the research questions, the work analyzes the relationship between short and long term rental dwellings, the dynamics of rental prices and options to increase affordable housing. By developing a transparent, quantitative, dynamic hypothesis, the research aims to contribute to the general understanding of the complex urban environment and to illustrate the importance of coordination between urban actors. The developed model does not intend to predict the future market development, but provides a platform to foster learning about the systemic relations. In a broader scope, the research aims to illustrate how System Dynamics as a tool and as a participatory method can support policy making in complex environments.

### ***Methodology***

The conducted research applies a case study approach combined with System Dynamics. System Dynamics is a quantitative analysis method to analyze complex social systems (Forrester, 1992). The method aims to quantify causalities between system elements to develop a simulation model. The developed model aims to provide a potential explanation for the market development of the past 40 years. The case study data is collected by reviewing literature, interviewing local experts and accessing national statistics of the housing market.

### ***Findings***

The research identifies the four main sectors which lead to the observed market development: the general supply of dwellings, the allocation of dwellings by landlords, the demand of tourists and the demand of local residents. Depicting the dynamics between those sectors, the research model is able to replicate the behavior of the rental price of the past. The research suggests that the liberalization of the rental market combined with the high international and national attractiveness of Lisbon's city center are the main drivers for the exponential development of the rental price. Without adequate policy interventions, the average price might continue to rise further. The analysis of potential policies reveals that tourist accommodation can lead to a strong resistance of the system: Landlords can circumvent rental regulations by shifting to the more profitable alternative of short term lodging.

### ***Discussion***

The System Dynamics model provides a transparent, comprehensive insight into the complex structure of the housing market. The methodology unveils the bounded rationality of actors and highlights the critical feedback loops within the causalities of the system elements. Future participatory research could extend the model structure to include additional research areas and to monitor the development of the real system with the simulation results of the model. The current model provides the basis for continuous development to build a digital representation of the urban system and could prove useful as a boundary object to reach a shared understanding between different stakeholders.

### ***Conclusion***

The city of Lisbon is highly attractive for residents and tourists alike. In a liberalized housing market, the decisions of providing accommodation are merely based on monetary aspects. In an attractive urban environment, this paradigm leads to rapid increases of rental prices which in turn cause the displacement of residents, the destruction of social capital and a financially driven homogenization of neighborhoods. The research developed a platform to foster understanding of the interrelations underlying the complex housing dynamics in Lisbon. Policies aiming for equality and social and functional mix need to systematically consider local lodging to achieve favorable outcomes. Most importantly, urban actors of the city need to be connected and coordinate their actions towards a common goal to overcome bounded rationality and to sustain the cultural diversity which defines Lisbon.

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