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Regulation of the So-Called Sharing Economy in Accommodation Services
in the Context of Negative Externalities

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Abstract

This paper investigates the impact of regulatory measures on the short-term accommodation sector within the sharing economy, with a focus on the challenge of mitigating negative externalities. Using comparative analysis, the study examines Germany—a country that has introduced increasingly strict regulations—and the Czech Republic, which lacks systemic regulatory controls. Drawing on data from Eurostat, STR Global, and Czech statistical offices, the research applies Pearson's correlation coefficient to assess the relationship between the number of short-term rental offers in both countries between 2018 and 2025. The results show a statistically significant and strong positive correlation, indicating that Germany's regulatory measures have not led to a meaningful reduction in the supply of short-term rentals. The discussion explores potential explanations for this limited effectiveness, such as circumvention by providers, enforcement challenges despite high fines, and the structural underinvestment in affordable rental housing that regulation does not address.

Moreover, while local measures such as registration requirements and annual limits may offer some control, they often fail to prevent market adaptation. The findings highlight the complexity of managing negative externalities in the sharing economy and question the sufficiency of regulation as a standalone policy instrument. The paper concludes that effective solutions require a coordinated approach combining improved data sharing, local enforcement capacity, and broader housing policy reforms. Without these complementary measures, regulatory efforts risk remaining largely cosmetic, offering only limited and temporary mitigation of the negative externalities associated with short-term rentals.

Key Words: Sharing Economy, Short-Term Rentals, Negative Externalities, Regulation

JEL Classification: **L83, R31**

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Introduction

The sharing economy in accommodation services offers financial benefits for property owners but also generates non-economic consequences in the form of so-called negative externalities. A negative externality occurs when an individual or group does not bear the full cost of their actions without being penalised, shifting these costs to other actors (Mankiw, 1999). In short-term rentals, this issue is especially pronounced because the costs are not directly created by the provider but by the guest, typically someone temporarily residing in a property. In practice, conflicts arise between long-term residents and short-term guests. These groups have different preferences, and problems often revolve around noise, lower maintenance standards, and similar issues. There are essentially two approaches to addressing negative externalities in economic practice: private and public solutions. The private approach is based on the Coase theorem, assuming costless negotiation and space for agreement. The second option is regulation, grounded in A. C. Pigou's concept of externality taxation (Mankiw, 1999). In the sharing economy, regulation has become the dominant approach. The aim of this paper is to assess the impact of regulations on the volume of short-term rental offers in the sharing economy. First, the situation in the Czech Republic is described, followed by a comparison with Germany, chosen as a suitable comparator.

1. Methods of Research

The research focuses on comparing the number of short-term rental offers using data from Eurostat (short-stay rentals, number of stays, occupancy), STR Global (number of stays and occupancy in traditional markets), and the Czech Statistical Office (general data about accommodation). The comparison is performed via Pearson's correlation coefficient, testing significance with the hypotheses:

H0: $\rho = 0$

H1: $\rho \neq 0$

We assume at a 5% significance level ($\alpha = 0.05$) that there exists a statistically significant correlation between the two time series, which are the number of short-term rental offers in Germany (first series) and the Czech Republic (second series) between 2018 and 2025 (data for 2025 available until March).

2. Results of the Research

In early 2022, the Czech Republic introduced a draft law aiming to establish enforceable rules for online-platform-mediated accommodation. The law targeted residents, providers, guests, homeowners' associations, and local governments. It introduced definitions such as "professional accommodation provider" and "online accommodation intermediary," with broad coverage beyond just Airbnb-type platforms. Criteria for

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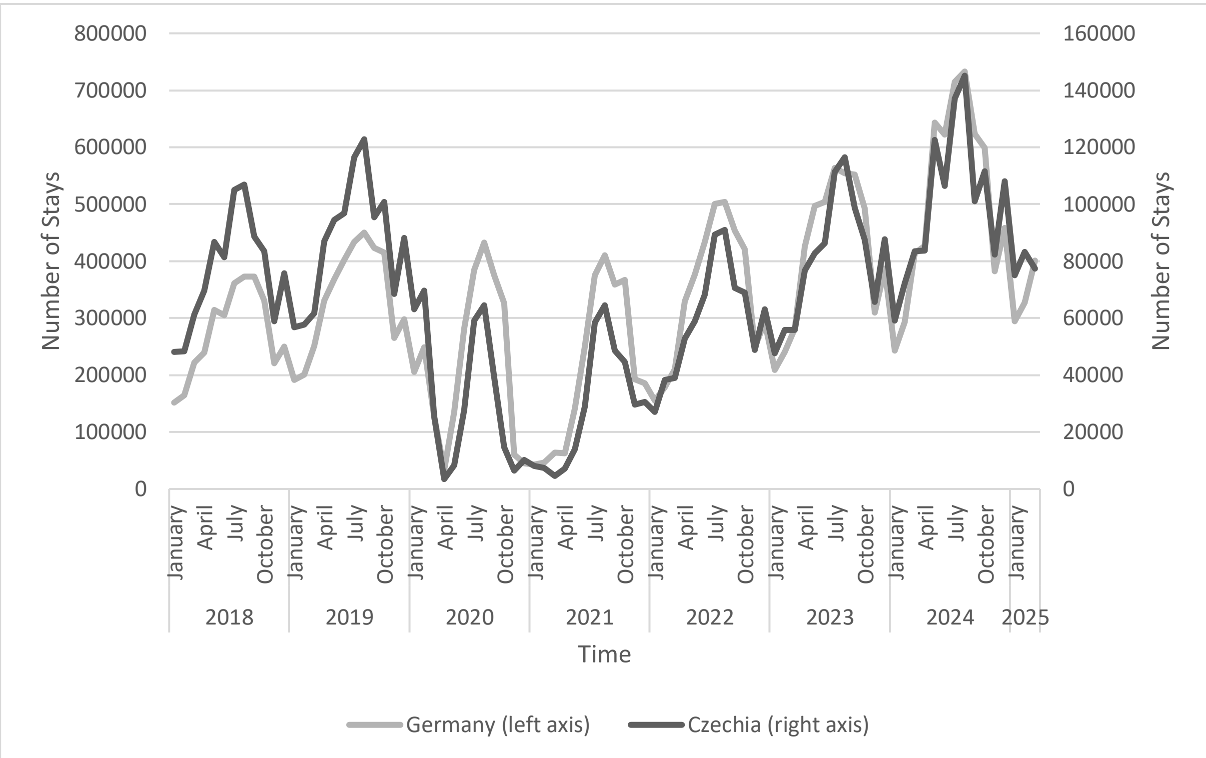
professional providers included income thresholds or operating at more than one address. The proposal addressed resident protection and imposed fines of up to one million CZK. Compliance responsibilities largely fell on property owners. It also significantly expanded the data-sharing obligations of online platforms, aligning with European approaches (Ministry for Regional Development, 2022).

Criticism of negative externalities in Prague has come notably from the association "Livable Housing in Prague's Centre," which produced a critical report (Čeněk, 2022) highlighting issues such as noise, lower building care, and impacts on local communities. While some arguments (e.g., tax effects) are debatable, the report notes real negative externalities. Prague City Tourism's analysis (2020) highlights overtourism and other negative aspects of the sharing economy (e.g., scooter clutter). The Prague Institute of Planning and Development (Marianovská & Němec, 2018) documented growth in listings, cases of professionalised hosts, and examples of regulation in other European cities. From 2023 to 2025, measures were adopted in the Czech Republic, but these were not traditional regulations. They included allowing municipalities to collect a local stay tax (up to 50 CZK/person/night), requiring guest records, and implementing EU Regulation 2024/1028 on data sharing between platforms and authorities. Despite ongoing debates, no traditional regulatory restrictions have been introduced in Prague or elsewhere in the Czech Republic.

Fig. 1: Number of Short-term Rental Offers



Source: authors' own calculations

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Compared to the Czech Republic, foreign regulation is typically more developed. Cities such as Amsterdam (30 days/year, 4 guests), Paris (120 days), Brussels (120 days), and London (90 days) have annual limits as stricter forms of regulation (Colomb & Souza, 2021). Germany, especially Berlin, has rules more stringent than those in Prague or Vienna. Providers must register and obtain a license with a unique ID. For secondary residences, there is a 90-day annual limit. Operation requires a permit that can be denied, with compliance strictly enforced and fines up to €500,000 (Colomb & Souza, 2021). Chronologically, Germany began tightening regulations in 2021 with annual day limits. By 2023, registries of hosts were introduced, and platforms like Airbnb were compelled to share data. By 2024, German cities had well-developed control and enforcement systems with varied models for limits, registration, and primary-residence conditions. A key question is whether these rules have affected the number of rental offers in 2023–2024. The following comparison assesses this using the approach described above. For comparing the possible regulatory impact, the Czech Republic was selected due to its historically strong positive correlation with Germany in short-term rental market trends. Initial outputs are shown in Figure 1, depicting the number of short-term rental offers in Germany and the Czech Republic from 2018 to March 2025.

The graph suggests no significant change in trend or deviation for Germany relative to the Czech Republic after 2023. This is consistent with the high Pearson's correlation coefficient of 0.857. Hypothesis testing showed a p-value = 0.01599, indicating rejection of the null hypothesis at $\alpha = 0.05$ and confirming a statistically significant correlation between the time series. This suggests that Germany's regulatory measures have not had a meaningful impact on reducing the number of short-term rental offers. Analysis of length of stay (LoS) also reveals differences: the average LoS in the Czech Republic is 3.13 nights versus 4.22 in Germany. Both countries saw increased LoS in 2020–2021 (COVID-19 effects). In Germany, LoS rose from 3.74 in 2018–2019 to 4.05 after 2022. Differences are visible but not dramatic or conclusively linked to regulation.

3. Discussion

This research suggests that regulation does not always achieve its primary objective, namely, the reduction of short-term rental supply. Empirical studies from Berlin demonstrate that the ban on unregulated rentals of entire apartments led to a temporary decline in supply, but the long-term effect on the market remained limited (Kholodilin et al., 2021). Landlords frequently circumvent regulations through new accounts, alternative platforms, or informal networks. Persistent enforcement challenges, despite the imposition of substantial fines, confirm that without robust administrative capacity at the municipal level and active cooperation from digital platforms, the effectiveness of such measures remains relatively low.

Another significant factor lies in the fact that short-term rental regulations primarily target the symptoms of the problem rather than its underlying causes. Structural underinvestment in the rental housing sector, low dynamics of residential construction, and increasing demand for urban housing generate pressures that mere restrictions on short-term rentals cannot sustainably alleviate. In this respect, it becomes evident that the regulation of short-term rentals may serve more as a complementary rather than a key instrument of housing policy. A comparison

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between Germany and the Czech Republic further highlights the limited role of regulation in an environment where the market follows broader European and global trends. The significant correlation in the number of listings in both countries, even after the introduction of stricter German rules, suggests that other factors—particularly tourist demand, macroeconomic conditions, digitalisation, and shifts in consumer preferences—exert a decisive influence on market developments. Regulation may only slightly slow down or temporarily divert the market, but it cannot alter the underlying trend. In conclusion, the effectiveness of short-term rental regulation cannot be understood in isolation but only as part of a broader housing policy strategy that combines regulatory, fiscal, and urban planning instruments. Only within such an integrated framework can regulatory measures meaningfully contribute to mitigating negative externalities while ensuring a balance between the interests of providers, guests, and local communities.

Conclusion

This study examined the potential impact of regulation on the sharing economy in short-term rentals, comparing Germany (with relatively strong regulation) and the Czech Republic (where systemic regulation is largely absent). The analysis revealed a strong correlation in the number of short-term rental offers, with Germany's regulatory measures not having a meaningful effect on reducing the supply or the associated negative externalities. Despite different approaches, the effectiveness of regulating short-term rentals in addressing negative externalities remains debatable. A key future challenge lies in harmonising data sharing, strengthening local enforcement capacity, and adopting a comprehensive housing policy that goes beyond the sharing economy. Without these steps, regulation will remain largely cosmetic rather than a tool for systemic change.

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