

Does income inequality affect illegal construction in Italy? Evidence from regional data

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ABSTRACT

This paper investigates the role of income inequality on illegal construction in Italy, using a panel dataset at regional level over the period 2004 to 2019. Although a first recent literature on environmental crimes in Italy has already begun to study the relationship between economic growth, socio-economic variables, and environmental crime, specific analysis on the socio-economic determinants of illegal construction has not received due attention yet. Our empirical findings yield new insights highlighting the existence of a positive relationship between illegal construction and income inequality, measured by two specifications of the Gini index, controlling for socio-economic and judicial characteristics. These results are robust to model specifications and endogeneity. There is a wide room for efficiency gains that could arise from policy interventions aiming to mitigate the socio-economic strains that are often correlated with this type of environmental crime.

Illegal building is an old problem in Italy which is now becoming detrimental to the country's social, environmental, and economic development affecting, in particular, the Southern as well as the coastal areas of the country. The data on illegal construction, unlawful quarry operations, and maritime concession violations is alarming. In 2023, more than 10.250 offenses related to illegal construction were recorded by law enforcement and the Coast Guard in coastal regions, with an 11% increase compared to 2022. There were almost 12.000 individuals reported to authorities (+21.2%), more than 1.600 criminal seizures (+17.3%), and 14 precautionary custody orders issued. Administrative offenses also have risen, reaching more than 15.000 cases (+11.7% from 2022), along with more than 34.000 fines (+20.9%). Southern Italy remains the primary victim of illegal construction. Campania tops the list with more than 1.500 offenses, accounting for almost 15% of the national total. It also ranks first in number of individuals reported and sanctions imposed. Campania is followed by Apulia region, with more than 1.400 offenses (14.1% of the national total), and Sicily with almost 1.200 offenses (11.5%). Tuscany ranks fifth with almost 800 offenses, followed by Veneto (6.9%) and Lazio (6%).

All of this, combined with Italy's geomorphological characteristics and the increasing frequency of extreme weather events, means that almost 14% of the Italian population now lives in areas classified as high or very high landslide risk zones (2.2%), or in areas periodically affected by floods.

According to ISTAT (2023), in some Italian regions, unauthorized construction does not show any signs of regressing and has reached alarming proportions being the outcome of several socio-economic and institutional forces, that in addition to exacerbating both underground and illegal economy, favors the exploitation of workers and the proliferation of organized criminal activities. Mainly concentrated in the Southern regions and along the coasts, it remains a plague that is difficult to tackle, which is compromising the planning of land use and causing the degradation of the landscape. Italy is a compelling case study, given that organized crime is involved in many economic activities ranging from illegal traffic of waste to illegal trade of wildlife and cultural heritage, from counterfeiting in the agri-food sector to forest fires and illegal constructions.

In their recent study on the relationship between income and environmental crime in Italy, Germani *et al.* (2020) found the existence of an inverted U-shaped relationship between environmental crime and income, showing that economic growth may be beneficial to decrease environmental crime and can boost

technological shifts away from environmental degradation. However, the effect of income inequality on environmental crime and specifically illegal constructions has not been evaluated yet. This paper addresses this gap in the literature by using regional data to estimate the effect of the unequal distribution of income on illegal constructions in Italy. The economics of crime is closely linked to the study of income inequality and poverty, of cultural and family background, of the level of education and of all those socio-economic factors that can influence the propensity to commit a crime such as, for example, cultural characteristics, gender and age (Fajnzylber *et al.*, 2002; Freeman *et al.* 1996; Glaeser and Sacerdote, 1999).

Our manuscript further extends this literature by considering the relationship between illegal constructions and income inequality. We postulate our research question on whether environmental illegality correlates with economic inequality while controlling for a set of regressors drawn from empirical studies on environmental crime (Stafford, 2002; Eckert, 2004; Almer and Goeschl, 2010; Castaldo *et al.*, 2021; Germani *et al.*, 2020). Our contribution draws on a still underdeveloped strand of literature, with the aim of disentangling the relation between illegal constructions in general and income inequality, showing that, at regional level in Italy, economic inequality leads to higher rates of illegal constructions. It is hoped that our findings could provide a relevant contribution to the economic literature on environmental crime, assisting policymakers in disentangling the economic drivers of environmental crimes and specifically illegal constructions, thereby enhancing efforts to meet targets.

Keywords: illegal construction, environmental crime, income inequality, Italian regions.

JEL classifications: Q56, K32.

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