

## The Curious Case of Underreporting

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### Abstract:

The quality of COVID-19 statistics has been questioned since the beginning of the pandemic. Even though the testing facilities become widespread quickly, the irregularities in reporting have continued for several reasons. In summer 2020, the Turkish health ministry started to report the number of daily cases in a non-standard fashion, excluding the number of individuals who tested positive but asymptomatic. The underreporting could escape the attention when the number of cases was relatively low. By fall 2020, the number of cases skyrocketed in all corners of the world. The Turkish community felt surprised over the gap between the official statistics and the evidence collected from their social circles, international news, municipalities, and media. In October, we had started to observe the community response, a stark decline in mobility in Turkey before the ministry admitted the underreporting. This observation provokes the idea that community response to the course of the COVID-19 pandemic depends on the official and privately available information together. This study builds an agent-based social-network model to understand the individuals' voluntary participation in the social distancing based on the information gathered from official and private sources. The model has several implications. First, when official statistics become unreliable, the community weighs more on the privately available sources, potentially spreading misinformation. This hinders the effectiveness of the government policy actions against the pandemic. Second, unreliable official statistics fuel doubts about the severity of the pandemic in a country, which in turn affects the economic performance of industries, particularly transportation and tourism.

**Keywords:** Covid-19, Social Networks, Community Mobility

**JEL Codes:** I10, I18