1. Title: How contagious is a pandemic to the housing market? Evidence from day-by-day sales and minute-by-minute bids after a Covid-19 policy intervention

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3. Abstract:
We exploit day-by-day transaction and minute-by-minute auction data from Norway in order to estimate the effect on the housing market of the government intervention on 12 March 2020 and further effects from economic relief packages announced on 20 March and 27 March. On 12 March, Norway was placed in lock-down in order to combat Covid-19. Using a discontinuity design, we seek to demonstrate that there exists a discontinuity in transaction volume, sell-ask spread, sell-prediction spread, number of bidders, number of bids, and frequency of single-bidder auctions before and after the policy intervention. Using a hedonic model to control for composition and quality effects, we estimate the magnitude of the change in prices in the days immediately after the policy shock. We uncover mechanisms underlying the reduction in volume and prices by studying both seller and buyer behavior, i.e. we map the frequencies of desperate sales on the sell side and exploitative bids on the buy side change immediately after the policy intervention. We proceed to investigate effects on the same set of variables from announcements of relief packages, and we link market dynamics metrics to measures of sentiment, mobility, and news about the medical situation.

4. Data description
Transaction data
We use transaction data from Eiendomsverdi, a private, bank-owned firm that specializes in constructing Automated Valuation Methods (AVM) for banks. The data contain the date on which the highest bid was accepted (sell date), the sell price (equal to the highest accepted bid), ask price, common debt, appraisal value, type of unit, type of lot, size of unit, size of lot, number of bedrooms, zip code, and city. The data comprise the time period from 1 January 2010 to 31 March 2020 (at this point; we seek to extend the coverage) and cover the four largest Norwegian cities (Oslo, Bergen, Trondheim, and the twin cities Stavanger/Sandnes) and the largest Northernmost city (Troms\ø). The number of transactions, after trimming on the 1st and 99th percentiles for size and 0.1 and 99.9 percentiles for sell price and sell price/size, is 347,417.

Auction data
We use auction logs from the realtors Krogsveen and DNB Eiendom, two large Norwegian realtor companies. The auction data contain bidder ID, unit ID, realtor ID, and realtor office ID. Data contain the date and time of every bid and the date and time of expiry of every bid. Moreover, data contain sell price, ask price, common debt, and hedonic attributes of the units. The time period is 2007-2020.
Sentiment, mobility, and medical data
We are in the process of acquiring data on sentiment, mobility, and the medical situation.
5. **JEL codes**: C31, D12, R21, R32

6. **Key words**: auctions, bid logs, Covid-19, discontinuity design, housing market, policy intervention, transactions