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Abstract

This short article provides a quick summary of the studies of real estate markets. Some new developments are also discussed.

Keywords: centralized versus decentralized markets; search-theoretic models; match; policy

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Real Estate Market

1. Definition

According to the Cambridge Dictionary, “market” has different meanings. It may be “the business or trade in a particular product, including financial products.” It may also be “a place or event at which people meet in order to buy and sell things.” (<https://dictionary.cambridge.org/dictionary/english/market>). Thanks to technological development, the financial market can be an electronic platform for trading financial assets. For instance, the stock exchange often serves as a "clearing house" where buyers and sellers trade approximately equal prices.

On the other hand, there is hardly any platform where people can gather to trade real estate. Instead, buyers search on their behalf and often in an uncoordinated manner. In other words, the real estate market is often *decentralized*.

2. History

Notice that the real estate market might have changed less than we thought. According to Temin (2013, p.139), the “market for land in the Roman Empire worked approximately like the land market today.” After reviewing the archeological evidence, Sartre (2005, p.181) concludes that “all generalizations, whether about houses or urban development, can be misleading, and local tradition was very important in this realm.” Why is that? Real estate may be *heterogeneous*. For one thing, locations are different. The nearby environment can also be different, potentially shaped by cultural and historical factors.

3. Theory

While the decentralized feature of the real estate market has long been recognized, the formalization of the idea comes later. Wheaton (1990) is perhaps the first search-theoretic equilibrium theory of the real estate market. In that model, the vacancy rate and the house price are determined endogenously, i.e., within the model.

Since search-theoretic models (STM) are often technically involved, we only provide an outline here. Recall that the real estate market is decentralized. Moreover, real estate is durable. Hence, each agent needs to evaluate different options, considering all possible futures. They are called the Bellman equations, constituting the first set of equations in a typical STM. For instance, a buyer needs to consider the probability of successfully finding a match and conditioning on that, what price would be acceptable, and how much utility will be generated. The buyer must also consider the probability of the failure to find a match and its implications for the agent's utility. A similar calculation also takes place in each seller's mind. Suppose different options are available for a sub-group, such as some who could choose to rent or own. In that case, the model needs to ensure that different options would provide the same level of utility (or "pleasure") in equilibrium.

The second set of equations in an STM relates all the probabilities that we mentioned above to the ratio of vacant real estate units to the number of people actively involved in the market. For instance, from a buyer's perspective, the chance of finding a match would depend on how many potential buyers are in the market relative to the number of vacant real estate units available, often labeled as the "market thickness." A parallel calculation occurs on the seller's side.

The last set of equations in an STM is about accounting. For instance, the number of potential buyers in the market in the next period would depend on the difference between how many buyers find a match and the number of households that start a new house search. We also need to keep track of the evolution of the physical units of real estate, which might change due to depreciation or new construction.

We say the model is in equilibrium when all equations are *simultaneously* satisfied.

4. *Conceptualisation*

We should distinguish different kinds of markets. While "wet markets" and "farmer markets" often refer to some physical place, real estate markets are not. Real estate markets refer to the search-to-trade and actual real estate trading. The real estate market is a market without a specific marketplace.

5. *New developments*

There are many developments in the studies of the real estate market. Limited by the space, only a few are highlighted here. First, unlike financial assets, which can be transacted quickly, real estate often takes a long time to complete. Hence, researchers jointly study the transaction time and prices (Anglin and Wiebe, 2013). Second, people may purchase housing units in an area with complicated motives, such as access to quality education (Hanushek and Yilmaz, 2022). Third, central banks may be involved in trading real estate-related assets, potentially distorting the prices (Hattori and Yoshida, 2022). Fourth, real estate can be used as an income hedge, and hence, the equilibrium housing affordability could be a subtle issue (Ortalo-Magné and Prat, 2014). Fifth, people can speculate on real estate (Leung and Tse, 2017). Sixth, real estate can be securitized and become a part of the retirement package (Riddiough, 2022).

6. *Policy relevance*

The studies of the real estate market are critical. For instance, housing affordability is a global issue, and real estate market research can illuminate the discussion (Saiz, 2023).

7. *Application fields*

Real estate market research has been embedded in labor, macro, and international economics models.

8. *Prospect*

With increasing available granular data, one would explore more issues in real estate markets.

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