

Applied Data Science Capstone Project

Are there indicators of a Housing Bubble in Sweden?

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1. Introduction

1.1. Business background and problem

The housing and construction market is an essential pillar of the Swedish economy, with direct effects of about 16 % of the national GDP in 2019. This does not include several related services that fall into other GDP categories, e.g. “Business Services” (1, 4, 5). To a significant extend, people in Sweden own their houses, flats or Bostadsrätt, which is owning the right to live in a flat, not the flat itself. In 2019, more than 60 % of the Swedish population owned their place of living in one of these ways (2). Both, the high importance for the national GDP as well as the high dependence of Swedish inhabitants, make the housing market and housing prices an important factor in the country. In recent years, these prices were significantly increasing, which increased the Swedish GDP as well as the capital of the housing owners. At the same time, this hinders people that do not have housing the access to the market.

The trend was going steeper and steeper upwards since the last real estate downturn in the 1990s (11). Several scientists claimed that a severe housing bubble developed in Sweden since 2004 that requires corrective action (12). In 2016, the Swedish central bank asked: *“Is there an evident housing bubble in Sweden?”* (3). This was after the housing bubble in the United States had been one of the causes of the global financial crisis of 2008 (6,7, 12). In 2017, Bloomberg assessed that *“Warning Signs Are Mounting for Sweden’s Once-Hot Housing Market”*, in 2018 *Goldman Sachs* saw *“Swedish property market heading for worst crash since 1990s banking crisis”*, and Reuters agreed in 2019: *“Sweden grapples with housing market reform as risks mount”* (8, 10, 11). In 2020, the central bank again reported this as a significant risk in its report about *“A new indicator of risks and vulnerabilities in the Swedish financial system”* (9).

Up to now in July 2020, the crash the experts and scientists expected did not come. The questions arising from this fact are:

- What factors determine if there a housing bubble in Sweden?
- Are the factors for a housing bubble in Sweden fulfilled?
- In which areas of Sweden might housing bubbles be fulfilled?

Moreover, an important variable for the analysis is the changed economic environment due to the COVID 19 crisis. Therefore, another question is:

- How does the COVID 19 crisis affect the Swedish housing market?
- Is there a higher risk of a crash in the housing market due to these factors?

Another interesting factor is to see the housing prices in the context of the Swedish government’s legal task to ensure affordable housing for everyone living in the country.

1.2. Target audience

The potential target audience for this data science project is brought. There are several stakeholders acting in the Swedish housing markets that are interested in the question if there is a housing bubble. These include the Swedish government, domestic as well as foreign investors, and people owning or planning to own housing in Sweden.

2. Data requirements and sources

2.1. Relevant data to analyse the business problem

The key for the analysis of the housing market in Sweden and the potential housing bubble is to understand the criteria for such a bubble. Following the definition of the investing and finance dictionary Investopedia, which is part of the Dotdash publishing family, possible criteria are (14):

- Temporary events that can last years with high demand, low supply and inflated prices
- Caused by
 - Economic prosperity
 - Low interest rates
 - Better mortgage product offerings
 - Easily accessible credit

A crash of such a bubble is then possibly caused by:

- Downturn in the economy
- A rise in interest rates
- Drop in demand

The data behind the factors above will be analysed to answer the questions raised in section 1.1.

2.2. Data sources

The main data source for this project is officially available data at the Swedish Central Office for Statistics (Statistiska Centralbyrån, short SCB). The SCB has the following data:

- Supply, demand and housing prices in Sweden
- Economic situation of Sweden
- Interest rates in Sweden

Only the factors mortgage product offerings and accessibility of credit will be provided by the Swedish Central Bank (Riksbanken) and other sources, like research papers or newspaper articles.

Foursquare will then be used to create a map of areas and corresponding housing prices in Sweden. This map can then provide the main areas that will potentially be affected by a crash of a housing bubble.

Appendix 1 – References

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