

Economics Influence on Housing price Index within Southeast Asian Countries

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1 Introduction & objective

For the purpose of this project, the objective is to consider various macroeconomic factors, such as the interest rate, GDP growth rate, Consumer Confidence Index (CPI), with an effect on the country wide housing price index. We would subjectively select four individual Southeast Asian countries suitable to represent the overall four national economics level categories ranked by the World Bank. Giving the covid-19 contingency around the world, we would also like to make certain adjustment to the model used to seek a hint on the overall cross-sectional impact.

Target Countries: Japan, People's Republic of China, Philippine, and Nepal (In descending order of the economics level).

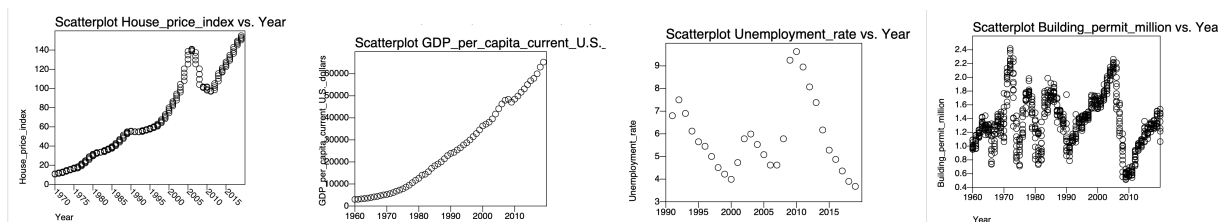
2 Proposed Model

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \epsilon$$

Initially, we choose total population, population density, urban population percentage, unemployment rate, real estate activities, taxes on property, per capita GDP, household final consumption, interest rate (Goodhart and Hofmann, 2008; Plakandaras et al., 2014; Emiris, 2016) as independent variables(x_i). Dependent variable(y) is the house price index.

3 Modeling data

In this section, we plan to briefly walk through the data modeling and analysis steps which will contribute towards the final deliverable. Using the data from USA as an example, we collected the data of the annual housing price index, GDP per capital, Unemployment rate, and number of building permits.



As shown above, the housing price has an overall uptrend, with a periodic recession during the 2008 financial crisis. A similar pattern appeals to the growth of GDP per capita. On the other hand, the national unemployment rate and the number of issued building permits are cyclical under the influence of the national economic, world economic environment, and other factors. Although displayed differently, we can still capture similarity characteristics. For instance, unemployment is recorded at a historical high during the financial crisis (The unemployment rate is a lagging indicator of the business cycle. Therefore, we see the historical high is recorded in 2010, but the upward trend obviously started at approximately coincide with the crisis). In the same way, a pattern can also seem for building permits. Hence, we will choose these three mentioned factors as the independent variables for the HPI in the model and analysis of the data based upon it.

References

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