THE INFLUENCE OF RESIDENTIAL PROPERTY PRICES ON INDONESIAN ECONOMIC GROWTH

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Abstract. The abstract needs to summarize the content of the paper. The abstract should contain at least 70 and at most 150 words. Font size should be set in 9-point and should be inset 1.0 cm from the right and left margins. A blank (20-points) line should be inserted before and after the abstractEconomic growth is an important measure for measuring the progress of economic development. By increasing production capacity to produce more output. This is because the economy develops or changes over time, and the changes or developments themselves put pressure on the economy. However, during the Covid-19 pandemic, conditions in various sectors slowed down, one of which was the property sector. The decline in residential property sales and the decline in demand for property resulted in a slowdown during the pandemic, namely that people implemented savings strategies to maintain expenses. So this research was conducted to determine the effect of residential property prices on Indonesian growth. The study employed secondary data, sourced from publications by the central satistics agency and Bank Indonesia's residential property price survey. Using Eviews10 as a statistical analytical tool, simple panel regression is the approach employed, with the random effect model yielding the best results and the t statistic serving as the statistical test. Using panel data in eight Indonesian cities from 2018 to 2022. Based on the research that has been concluded, it can be concuded that the commercial property price index has an effect on economic growth because the variable has a probability value equal to 0.0033 < 0.05 or t count of 3.152677 > t table 1.69092, then reject H0 or accept Ha. Meanwhile, the residential property price index, construction cost index and inflation have no effect on economic growth. So in this research, the only influence is the commercial property price index. Because the available data is limited, researchers use the residential property price index, commercial property price index, construction cost index, and inflation as factors that can influence residential property prices on Indonesian economic growth.

Keywords: economic growth; residential property price index; commercial property price index; construction cost index; inflation.

1 Introduction

This Word document can be used as a template for papers to be published in EAI Core Proceedings. Follow the text for further instructions on text formating, tables, figures, citations and references The property and real estate industry began to emerge in 1968 and finally became part of the Indonesian Stock Exchange (BEI) in the 80s.The attention of the government, policymakers, academics, and economists to the housing sector is increasing (Khoirudin & Kurniawan, 2023). In research (A'yun & Khasanah, 2022) areas experiencing industrialization growth will focus on economic growth and unployment. Along with the development of contruction and real estate industry, this industry has become one of the ost resillent industries to the country's macroeconomic challenges. In research (Kurniawan & Prawoto, 2014) high economic growth means a high standard of living for its citizens. Based on the development of the Indonesian economy during the Covid-19 pandemic, various sectors experienced a slowdown, one of which was the property sector. Although the growth rate of the real estate index during 2019 tended to increase, the property sector in the second, third and fourth quarters of 2020 experienced a decline which had an impact on property market prices and the level of public demand for property. Considering that annual rises in real estate prices correspond with rising consumer demands in this sector, and the property market has seen a downturn as a result of the pandemic. Thus, can be determine the extent to which Indonesia's economic development is influenced by residential property values through this research. So that property is included in the construction sector which is a potential sector for national development because it can generate government income. With the impact of the corona pandemic has affected sales volume and property demand, the decline is because many people are experiencing economic shock so they are not thinking about investing in property or buying property. On the other hand, investment opportunities can bring propfits to business people in the property sector. However, in research (Khoirudin, 2017) there is one important piece of information from the report finance that investors often use as main determinant of decision making investment is the company's performance.

The decline in residential property sales can be attributed to a variety of factors, including stricter taxation, rising prices of building materials, licensing and bureaucratic issues, and a high proportion of down payments for mortgage applications. In research (Abasimi, et.al, 2023) a variety of supply and demand sided factors can determine housing prices in developing countries. For the lower middle class, one option that can be considered is buying a house asset through a mortgage. Therefore, price increase as determined by IHPR provides insight into the state of the Indonesian housing market. In addition, both short and long term fluctuations in mortgage debt, interest rate, and housing prices impact the supply and demand of properties on the market. Meanwhile, the construction cost index is needed to measure the level of geographic difficulty of an area, based on the type of house. Prices in an area will be higher if the geographic location is more challenging. This relates to the price that consumers will consider regarding the price offered. (Wahyuni & Khoirudin, 2016). Economic growth is one measure to determine the success of development carried out, especially in the economic sector and can be used to determine the direction of future development. Import means a trade transaction carried out between countries in an effort to fulfill domestic demand (Kartikasari & Khoirudin, 2022).

From time to time, the population is getting higher, including encouraging economic activities that are no longer just residential but also commercial. Especially in big cities, commercial

property is in great demand due to the large amount of economic activity in a particular city. In research (Nafisah & Sukarniati, 2015) tourism directly or indirectly has an influence on the socio-economic, sosio-cultural, political and environmental life of the surrounding community. Based on data for Bank Indonesia, the Covid-19 pandemic has had a major impact on the office market in Jakarta. The impact was felt across all business sectors, as several companies downsized, moved locations, and even closed offices in different office buildings. Apart from that, rental prices also decreased due to decreasing occupancy rates in the market throughout 2020. This resulted in a significant decrease in the number of domestic and foreign tourists. The tourism sector is a key component of economy in the service sector which is able to trigger economic growth in countries around the world. This situation will have an impact on the rate of increase in inflation, which in turn will slow it down. On the other hand, low and stable inflation has the potential to encourage economic growth. Therefore, the empirical study will investigate the influence of property prices on Indonesian economic growth..

2 LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

In research (Amdan & Rafi, 2023), according to Kuznets economic growth refers to the continuous improvement of a country's ability to provide various kinds of economic goods for its society. GDP shows variations in all economic activities including capabilities that show how a country produces. The business cycle is most likely to influence the performance of a country's financial institutions. There are several possibilities that trigger that could trigger a slowdown, one of which is access to producton dactors. Synergy between production components is used in the economy to produce added value in the form of gross domestic product (GDP). As a result, it has a lower ability to enjoy some of the added value (Zakiyyah, et.al. 2023).

In research (Anastasia, 2019) to monitor changes in residential property prices, Bank Indonesia conducts a residential property price survey every three months. This survey collects data for the residential property price index. Thus, if at theory of economic growth which emphasizes the importance of providing economic goods to the population, then price movement and housing market conditions can influence each other. So that the IHPR influences positive on Indonesia economic growth. Meanwhile the commercial property price index is an index containing rising price trends in the commercial property sector. This index is also used as an index to measure asset price iflation in Indonesian. In research (Nurpita & Wardani., 2021), commercial property refers to a type of property that can generate income through various aspects of its business. The higher the income, the higher the demand for property. So that, the IHPK influences positive on Indonesian economic growth. On the other hand, house prices have an influence on the demand and availability of bank credit through household assets. Therefore, changes in interest rates are related to changes in the prices of consumer goods for the general public. So that, the IKK influences negative on Indonesian economic growth. Inflation is a general and continuous trend of rising and falling prices. This means that the prices of goods and services in a country or region tend to increase over time. Meanwhile in research (Abasimi, et.al, 2018) inflation is the general and persistent rise in the prices of goods and service manufactured in an economy. A general and continuous level of price increases can indicate inflation. The COVID-19 pandemic has hampered demand and economic growth in the country because there has been a decline in public consumption of economic activities due to high prices

of goods and services. So that, the inflation influences negative on Indonesian economic growth. The following is the research framework.

Figure 1. Research Framework

Based on previous research, several variables are used to measure economic growth in terms of property prices. In research these variables include IHPR, IHPK, IKK and Inflation. However, differences in approaches and modeling used by previous researchers resulted in inconsistencies in each variable. According to research (Nurpita et al., 2022) the residential property price index variable has no significant effect and the commercial property price index variable has no significant effect. Furthermore, in research (Fauzia, 2019) variables inflation (I), PRDB, population density (CP), labor (L) and income (In) have a significant effect. Lastly, the mortgage interest rate variable has a significant effect (Anastasia, 2019).

3 RESEARCH METHOD

This research uses a quantitative approach. This research aims to test the hypothesis, namely to test whether there is a fundamental relationship and answer the research question asked. This research uses quantitative data. The data used in this research is panel data which is a combination of time series and cross section data. Panel data in its use has several advantages, including making it possible to analyze changes at the individual level. The time span is 5 years (2018-2022) with data of 8 cities in Indonesian represent as research objects (Bandung, Makassar, Medan, Semarang, Surabaya, Balikpapan, Denpasar, and Palembang) and the research variable are IHPR, IHPK, IKK, and Inflation. The data collection technique in this research is the documentation method, data sources from residential price survey publications published periodically by Bank Indonesia, as well as data from publictios from the central statistics agency (BPS). The analytic tools as EVIEWS 10, method used is simple panel regression. The following are various panel data regression models that may be used :

$PE_{it} = \beta_0 + \beta_1 IHPR + \beta_2 IHPK + \beta_3 IKK + \beta_4 I + \varepsilon_{it}$

Describtion :

PE   : economic growth

IHPR : residential property price index

IHPK : commercial property price index

IKK : construction cost index

I : inflation

i : 8 cities in Indonesian

t : period 2018-2022

ε : error term

In research used the panel data regression model, there are three, namely common effect model, fixed effect model, and random effect model. In determining the best model is carried out using :

The Chow test helps to choose the best model between the common effect model and the fixed effect model by looking at the probability value of cross section F, below to test the hypothesis :

H0 : Probability value > alpha 0.05, so the CEM model is selected

H1 : Probability value < alpha 0.05, so the FEM model is selected

The Hausman test helps to choose the best model between the random effect model and the fixed effect model by looking at the probability value of the result.

H0 : Probability value > alpha 0.05, so the model selected is REM

H1 : Probability value < alpha 0.05, so the model selected is FEM

The Langrange multiplier test helps to compare the common effect model and the random effect model based on their probability value.

H0 : Probability value greater than alpha 0.05, so CEM is selected

H1 : Probability value less than alpha 0.05, so REM is selected

The model specification test is carried out using :

The F test, to evaluate all independent variables together on the dependent variable (Languju et al., 2016), the basis for testing is as follows :

a. If accept H0 and reject Ha, if the calculated F value < F table, it means the hypothesis is not proven.

b. If reject H0 and accept Ha, if the calculated F value > F table, it means the hypothesis is proven.

The R square test, to evaluate the extent to which the independent variables can explain the dependent variable. The R square value ranges from 0 to 99, the closer to 1 indicates that the model used is more feasible.

The T test to test the influence of each independent variable on the dependent variable (Languju et al., 2016). The hypothesis formula used is as follows :

a. If the value of t calculated > t table, then receive Ha.

b.   If the value of t calculated < t table, then reject Ha.

Or

a.   If the value of Probability > alpha 0.05 then accept H0.

b.   If the value of Probability < alpha 0.05 then reject H0.

4 RESULT AND DISCUSSION

The following are the results of testing the best models, including :

Table 1
Chow test results

Effect test	Statistic	d.f	Prob.
Cross section F	1.257130	(7.28)	0.3066
Cross-section Chi-square	10.931633	7	0.1416

Sources : Data is processed, 2023.

Based on Table 1, the chow test results above show that the cross section F probability value is 0.3066 > 0.05. therefore, it is conluded hat the best chow test model is common effect model (CEM).

Table 2
Hausman test results

Test summary	Chi-square statistic	Chi-sq. d.f	Prob.
Cross-section random	8.702892	4	0.0690

Sources : Data is processed, 2023.

Based on Table 2 of hausman test results above, it can be that the probability value is 0.0690 > 0.05. This means that the random effect model (REM) is the best model in testing. Because the results of both tests produce different models, another test must be carried out called the Langrange Multiplier (LM) test.

Table 3
Langrange multiplier test results

Null (no random-effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breush-Pagan	4.386650 (0.0362)	102.1823 (0.0000)	106.5689 (0.0000)

Sources : Data is processed, 2023.

Based on Table 3 , the results of Langrange Multiplier test above show that the value of the Breusch-Pagan test is 0.0362 < 0.05. therefore, the right decision in determining the model in model testing is the random effect model (REM).

The following are the results of model specification test to hypothesis test, including :

Table 4
F test results

F Statistic	3.330753
F table	2.641465
Prob(F statistic)	0.020596

Sources : Data is processed, 2023.

Based on Table 4 of the F test results above, the Prob(F statistic) value is 0.020596 < 0.05, which means that the independent variables IHPR, IHPK, IKK and Inflation together influence the dependent variable, namely economic growth. Where F statistic value is 3.330753 > F table is 2.641465, which mens rejecting H0 and accepting Ha.

Table 5
R square test results

R square	0.275707
Adjusted R square	0.192931

Sources : Data is processed, 2023.

Based on Table 5 , the R square test results show that the independent variables (IHPR, IHPK, IKK, and Inflation) can explain 0.275707 or 27.57% of the dependent variable. However, the small adjusted R square results 0.192931 or 19.29%, shows the limited ability of the independent varibles (IHPR, IHPK, IKK, and Inflaton) in explaining variations in the dependent variable (Economic Growth).

Table 6
T test results

Variable	t table	t statistic	Prob.	Explanation
IHPR	1.69092	0.287711	0.7753	No significant
IHPK	1.69092	3.152677	0.0033	Significant
IKK	1.69092	0.495244	0.6235	No significant
Inflation	1.69092	1.656289	0.1066	No significant

Sources : Data is processed, 2023.

Based on Table 6, the t test results above can be explained as follows :

a. The IHPR variable has a prob value equal to 0.7753 > 0.05 or t statistic of 0.287711 < t table 1.69092, then accept H0 or reject Ha. The IHPR variable individually is not significant for economic growth.

b. The IHPK variable has a prob value equal to 0.0033 < 0.05 or t statistic of 3.152677 > t table 1.69092, then reject H0 or accept Ha. The IHPK variable individually is significant for economic growth.

c. The IKK variable has a prob value equal to 0.6235 > 0.05 or t statistic of 0.495244 < t table 1.69092, then accept H0 or reject Ha. The IKK variable individually is not significant for economic growth.

d. The Inflation variable has a prob value equal to 0.1066 > 0.05 or t statistic of 1.656289 < t table 1.69092, then accept H0 or reject Ha. The Inflation variable individually is not significant for economic growth.

Based on research findings, it is known that the residential property price index variable is not significant to Indonesian economic growth. Where t statistic is less than t table (0.287711 < 1.69092) with the prob value greather than alpha (0.7753 > 0.05). The hypothesis proposed in this research states that the residential property price index has a positive effect on Indonesian economic growth. Thus, it can be concluded that the findings are not in line with the proposed hypothesis. This is because the data used for the IHPR variable in this study adapts to existing data from other variables used, therefore this study represents eight cities as research objects. Where this adjusts to existing data from other variables used. So, statistically IHPR has no effect on Indonesian economic growth.

Based on research findings, it is known that the commercial property price index variable is significant to Indonesian economic growth. Where t statistic is greater than t table (3.152677 > 1.69092) with the prob value less than alpha (0.0033 < 0.05). The hypothesis proposed in this research states that the commercial property price index has a positive effect on Indonesian economic growth, supported by these results. Thus, it can be concluded that the findings are in line with the proposed hypothesis. This is in research (Nurpita et al., 2022), that the demand for commercial property in the city is increasing due to the city's economic activity. This means that the commercial property price index influences Indonesian economic growth because higher incomes influence people to increase consumption, such as buying property in the form of houses, offices and shophouse according to their needs. So, statistically the IHPK variable influences Indonesian economic growth.

Based on research findings, it is known that the construction cost index variable has an no significant influence on Indonesian economic growth. Where t statistic is less than t table (0.495244 < 1.69092) with the prob value more than alpha (0.6235 > 0.05). The hypothesis proposed in the research is that the construction cost index has a negative effect on Indonesian economic growth. Thus, it can be concluded that the findings are in line with the proposed hypothesis. It was determined that thre was no influence of the constructioncost index on Indonesian economic growth. His is because the construction cost index focuses on measuring the geographical location of an area. According to Hakim A. (2017) in research (Akbar, 2023), the construction cost index influences differences in the conditions of a region , resulting in different prices in each region. Where inadequate transportation facilities result in the price of construction goods being relatively expensive. So, statistically the IKK variable has no effect on Indonesian economic growth.

Based on research findings, it is known that the inflation variable has no significant influence on Indonesian economic growth. Where t statistic is less than t table (1.656289 < 1.69092) with the prob value more than alpha (0.1066 > 0.05). The hypothesis proposed in the research states that inflaton has a negative effect on Indonesian economic growth. Thus, it can be concluded that te findings are in line with the proposed hypothesis. This was determined to have no effect on economic growth. According to research by Anastasia, N (2019) inflation can soar high if the country's inflation rate s not controlled properly by the government. Due to chages production activities which decreased because the Covid-19 pandemic, which in this condition affected the purchasing power of people's consumption in economic activities, such as decreasing consumer purchasing power in property sector. So, statistically the inflation variable has no effect on Indonesian economic growth.

5 CONCLUSION AND RECOMMENDATION

Based on of research which aims to determine The Influence of Residential Property Prices on Indonesian Economic Growth with represent as research objects 8 cities in Indonesia from 2018-2022, so that from the research results it can be concluded as Residential Property Price Index (IHPR) is not significant for Indonesian economic growth, Commercial Property Price Index (IHPK) is significant for Indonesian economic growth, Consctruction Cost Index (IKK) is not significant for Indonesian economic growth, Inflation is not significant to Indonesian economic growth.

IMPLICATION/LIMITATION AND SUGGESTIONS

In the research that has been carried out, researchers suggest that when determining independent variables and dependent variable, it is necessary to consider adjustments to the sample to be used and other analysis methods. This is because these factors can influence the final results

obtained based on statistical calculations. Because the available data is limited, for research on the same topic, it is hoped that additional data sources can be used to obtain more accurate research data results for further reference.

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