

Impact of COVID-19 on the real estate market: A Comparison of Developed and Developing Countries.

by

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Abstract

Aim: The primary aim of this research is to analyse the impact of COVID-19 on the real estate market by carrying out a comparison of developed and developing countries.

Method: This research study has embraced a secondary quantitative methodology in which the data related to the real estate market and COVID-19 opted for the period of 2019-2022 from the data available related to real estate market value. The developing countries that have been opted for were Hungary, Poland, Chile whereas the developed countries included are Germany, Australia and Switzerland. The data was statistically examined through correlation and regression tests. The collected data was analysed using STATA as correlation and regression analysis were used.

Findings: As per the publicly available real estate market value of developed and developing countries of the period 2019-2022 is found to be that COVID-19 has had a significant impact on both developing as well as developed countries. The findings obtained through correlation analysis show that the real estate market value of developing countries does not have a significant relationship with COVID-19 as compared to the developed countries.

Conclusion and Future Implications: For future implications, the research provides a basis for further research in improving the real estate market of the developed as well as developing countries that were affected by COVID-19.

Introduction

In March 2020, a global pandemic was caused by the inability to control an unusual respiratory illness known as COVID-19 (Allain-Dupré et al., 2020). As a result of the pandemic, governments from all over the world responded by imposing lockdowns and stay-at-home

directives as the last choice to prevent the failure of healthcare structures (White, 2020). In the months that followed, empty workplaces, home offices, shopping centres, sidewalks, cafes, bars, and parties were used as allegories for social exclusion and the limitation of interpersonal interactions. Shutdowns always coincide with a global economic crisis regardless of a wide range of economic assistance processes that were successful in restricting the disease's spread. Similar to many other sectors of the economy, the real estate industry, comprising residential and commercial real estate, along with the mortgage market, is facing unparalleled difficulties (Uchegara, 2020). Sales of commercial and residential real estate are falling, people are moving out of cities, and families are having difficulties with their mortgage payments, among other reasons. In order to foresee the short- and long-term economic repercussions of further COVID-19 waves, it is to the greatest advantage of economic experts and industry experts to understand the pandemic's consequences on the real estate and mortgage markets.

The study by Aksoy (2022) highlights the significance of the real estate industry by stating that the real estate industry is regarded as the most crucial part of the economy. Land owners' and renters' wealth and their capacity to spend money on goods and services are directly impacted by how affordable real estate and rent rates are, as well as fluctuations in those prices. As a result, central banks are progressively monitoring the increase in rents and property prices, in addition to individual households that intend to invest or change their housing status. Consumer spending is heavily influenced by housing costs, which also have a big impact on pricing changes. However, in latest years, the central bank's involvement in the real estate market has expanded further than this influence on inflation rates. The study by Del Giudice (2020) has stated that due to COVID-19, the housing market has significantly slowed down. Price will obviously be impacted by this tendency as well.

It is difficult to segregate the outcome on the market since more broad macroeconomic factors with time- and place-bound characteristics can have a significant impact on prices. A price reduction brought on by a decline in household wages is anticipated to occur over the next 18

months, according to an Irish study that examined various potential possibilities in the real estate market (De Toro, 2021). In difference to the commercial real estate market, which will grow faster, the research approximations that the housing market would stabilise only after the epidemic. This study, which examines potential adjustments and opportunities in the wake of the pandemic, contends that new ways to build and expand bases, as well as investment strategies, should be expected to shift. Moreover, it is found that governments of developed nations like Australia have created incentives to combat rising unemployment and the resulting challenges that families experience when it comes to paying rent or mortgages, which have helped to keep this reduction under to some extent under check. In regards to this, the present study will be overviewing the Australian market in depth along with other developed nations like Germany and Switzerland.

The effects of the pandemic on the world economy and the housing market have also been examined in another study (Cheung, 2021). This study looks at the expected real estate rules that will be implemented after the initial health crisis and develops a possible approach for determining the effective short- and long-term measures for the sector's recovery. The research highlights the significance of focusing on citizen income protection programmes, controlling health implications, and lowering the risk of health problems in nursing homes and healthcare facilities, and it suggests co-living building systems and online communities (Cheung, 2021). However, it is crucial to note that there are very limited studies that have identified the impact of COVID-19 on the real estate sector of developing and developed countries. In regards to this, the key aim of the present study is to provide a comparative analysis of the real estate sector of developing and developed countries by measuring the impact of the deadly COVID-19 virus. For the motive of accomplishing this aim, the researcher has particularly taken six countries into consideration. The chosen three countries for the analysis of developing countries are India, Indonesia and Romania. Moreover, the selected three countries for the analysis of developed countries are Germany, Australia and Switzerland.

Literature Review

The health crisis instigated by the COVID-19 pandemic started at the commencement of 2020, which is changing the lives and working conditions of people globally (Allain-Dupré et al., 2020). This COVID-19 outbreak has developed an emergency that is having and will endure having various significances on all economic segments, which also includes the real estate market. The overall living was affected during the lockdown; houses were the only place that became an area for both living and working along with leisure activities (Battistini et al., 2021). The crisis and worldwide impacts of the pandemic were considered unexpected events that had an adverse effect on the projected growth in the real estate segment, sales procedures of the current real estate, cost evaluations, standards, and rates of return of the present real estate sector in general. Balemi, Füss and Weigand (2021) identified that the coronavirus pandemic has a significant influence on the real estate market of developing countries. This shows that the implementation of new policies and precautionary measures implied due to travel bans and constraints on domestic and global tourism mainly influence the tourism industry, which results in the decline in the revenues of the real estate market. It is examined that the coronavirus pandemic has a substantial influence on the real estate market of developing countries that is affecting its operations through travel bans and restrictions on tourism worldwide.

Moreover, a reduction in the transactions volume in real estate tends towards obtaining retail facilities, office and residence dealings help in improving the vacancy rates in hotels where the added measures taken by the hotels due to the pandemic tend towards a major rise in the operating costs (Balemi, Füss and Weigand, 2021). Therefore, it indicates that the decline in the collection of rent directs towards losses which are because of the decline in demand, where net operating income and the value of investment also seems to be declining. Gascon and Haas (2020) identify that, like various sectors, real estate markets entailing residential and commercial real estate, along with mortgage markets that were encountered extraordinary challenges. There were numerous commercial as well as residential properties whose sales decreased due to the pandemic.

People licenced their apartments in metropolitan areas, due to which problems are increasing in redeeming their mortgages. Pandemics attain exogenously due to rarity, where the availability of data is restricted because of the low occurrence of real estate time series (Francke and Korevaar, 2021). It is assessed that real estate markets of developing countries result in numerous challenges that are creating problems in the transactions of real estate. This demonstrates that the COVID-19 pandemic has had a significant impact on the real estate market of developing countries.

H01: COVID-19 pandemic had no significant impact on the real estate market of developing countries

H1: COVID-19 pandemic had a significant impact on the real estate market of developing countries

The global economic state linked with the range of the COVID-19 virus has a noteworthy effect on all phases of activities in developed countries as well as globally involving the real estate market. In consideration with developed countries such as Russia, governments are vigorously working on providing support to businesses as well as society by adopting a number of anti-crisis programs (Tanrıvermiş, 2020). The only support area that is provided to the real estate market is government support. The support was provided to citizens who buy houses on mortgage and support for tenants by residential and commercial real estate property holders. At the initial stage of the pandemic, all economic activities were stopped, whereas real estate professionals found that the demand for buying houses increased before the implementation of self-isolation, where most of the dealings were made in an emergency approach. The major cause of this attitude was the fear of danger that is being infected in the search procedure for appropriate properties (Avakyan and Pratsko, 2020). Currently, the cause of the crisis varied, as all economies worldwide have adjourned business activity, and the movement of people has been a constraint in the society that led towards a minimisation in the wages of both businesses as well as residents (Kaynak, Ekinci and Kaya, 2021). It is analysed that there is a significant impact of COVID-19 on the real estate market of developed countries.

The real estate market was one of the primary areas affected by the COVID-19 pandemic. It is also important to understand how COVID-19 has altered the dynamics of the real estate industry, producing new trends in various market groups (Di Liddo et al. 2023). The health crisis has disrupted the established "human normality" by introducing new behaviours and affecting practically every industry. Among economic domains, the identification of temporary and permanent impacts on the real estate market is crucial for assessing the consequences worldwide and evaluating countries' resilience. The demand for homes was lowered by worries about more drops and the pandemic's immediate detrimental effects on economic activity. The authors claim that there was an immediate drop in price, more than half of which happened prior to the shutdown (Anundsen et al. 2023). But when the doors opened again, this impact was fully reversed. Moreover, Gamber, Graham, and Yadav, (2023) argued that the epidemic had a big effect on the real estate market. The investigation came to the conclusion that the housing market and the pandemic were significantly correlated. One significant finding is that the demand phenomenon of staying at home contributed around half of the 2020 price increase in homes, with the other third coming from lower mortgage rates and government help.

As observed by De Toro, Nocca and Buglione (2021), substantial alterations were undertaken in the lawful population of the real estate market. The purpose was to minimise the adverse influence of the catastrophe. The procedures taken by legal establishments are in terms of the rise in payments of the citizens who have lost their job, relations with children, pause taxes for businesses, financiers, and certain provisions with regards to the real estate market. The study conducted by Avakyan and Pratsko (2020) indicates the most significant alterations in the real estate market infrastructure are in terms of online dealings. The study found that various legally important activities have been transmitted to isolated mode. Although, it is still not addressed whether the pandemic has a lasting effect on the imminent growth routes of cities as well as their housing markets. This shows that an important doubt is contiguous to the short-term effect of COVID-19 on urban housing markets. It is assessed that, in association with the real estate market,

the real estate market has experienced key variations both in terms of technologies utilised by the market contributors and from a legal perspective. The decline in the prices of houses was most substantial just after the outbreak of the pandemic, along with areas that were highly affected. This exhibits that the COVID-19 pandemic had a significant influence on the real estate market of developed countries.

H02: COVID-19 pandemic had no significant impact on the real estate market of the developed countries

H2: COVID-19 pandemic had a significant impact on the real estate market of developed countries
Conceptual Framework

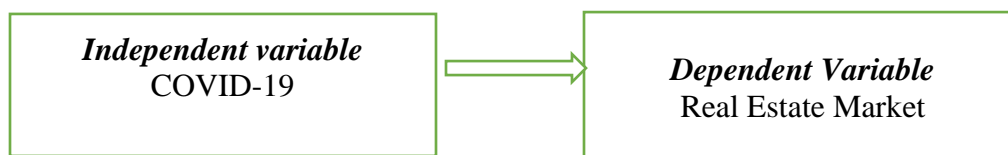


Figure 1: Conceptual Framework

Source: Self-made

Method

The study adopted a secondary quantities analysis to examine how COVID-19 affects the real estate market. To determine the pandemic's influence on this industry, the study contrasts developing and developed countries. Secondary data sources were used to in the research to provide information about the real estate market and COVID0-19, the data was collected from credible sources such as government reports, industry journals, and market research studies. The study included developed countries such as Germany, Australia, and Switzerland, and developing countries such as Hungry, Poland, and Chile. The selection of these countries ensured a large and representative sample size allowing for a genuine comparisons. By providing a comparison between these countries, it shed light on the real estate market valuations, commercial real estate

market performance, and changes in the housing market throughout the selected time period. The collected data was analyzed using STATA software which is capable of managing complicated datasets and performed advanced statistical tests. Descriptive statistics, correlation and regression analysis were utilized to evaluate the parameters associated to COVID-19 as well as indicators of the performance of the real estate market. Correlation analysis was carried out to determine the nature of connection that exist between the selected variables of COVID-19 and real statement market, as the analysis helped to indicate significant pandemic trends and implications of the real estate business. Regression analysis was utilized to quantify the influence that COVID-19 had on the real estate markets and developing countries. Multiple regression models were developed to separate the effects of the pandemic from those factors to make sense the pandemic influenced the dynamics of the real estate market. The exact computation of the regression coefficient and interpretation of the results were made possible using Stata, which highlighted the influence of the COVID-19 had on the real estate markets of both developing and developed countries.

Results

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
COVID-19	24	0.5	0.510754	0	1
Housing Prices	24	116.1044	13.61093	101.2762	146.3531

Table 1: Descriptive Statistics

As per the Table 1: the COVID-19 variable as a mean of 0.5 and a standard deviation of 0.510754 based on 24 observations. It implies that it accruable represents both the effect of post pandemic era. The average home prices was 116.1044 indicating that the developed and developing countries had high income expenses through the years after the COVID-19 crisis. The standard deviation of 13.61093 suggests that home values vary moderately implying that market reactions to the pandemic were occurring. The price of housing fluctuated significantly ranging

from 101.2762 to 146.3531. Despite the pandemic, property values climbed dramatically in certain countries, while remaining relatively stable in others.

Correlation Analysis

Variables	covid19	Housing Prices
covid19	1	
Housing Prices	-0.2659	1

Table 2: Correlation analysis

As per above the above table, it reveals a moderate negative relationship between COVID-19 pandemic and housing prices of developed and developing countries. The negative association indicates that, as the impact of pandemic increased housing prices started to decrease implying that relationship is not strong. The negative correlation suggests that the pandemic adversely affected that overall housing prices but the degree, the impact varied across various countries.

Diagnostic Test

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: $\sigma(i)^2 = \sigma^2$ for all i
chi2 (6) = 322.02
Prob>chi2 = 0.0000

Table 3

Referring the diagnostic test, the model in the fixed effect regression model yields a chi-square value of 322.02 with a corresponding p-value of 0.000. The results shows a rejection of the null hypothesis, which suggests that variances across the developed and developing countries are equal. The extremely low p-value suggests a significant evidence of heteroscedasticity in the data. The findings implies that variability in housing prices differs across developed and developing

countries included in the sample, likely due to different economic conditions government policies and market responses to COVID-19.

Test Statistic	F-Statistic
H ₀ : No First-Order Autocorrelation	10.058
p-value	0.0248

Table 4

As per the above table, the test for first-order autocorrelation models shows F-statistic of 10.058 with a p-value of 0.0248. The results indicate a rejection of the null hypothesis, states that there is no first-order autocorrelation in the residuals. The p-value is below the threshold level of 0.05 suggesting a significant evidence of autocorrelation. Therefore, the findings holds significance in the current paper since autocorrelation in the residuals lead to inefficient estimates and biased standard errors in the regression analysis.

Regression Analysis

Housing Prices	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
covid19	-6.282456	1.265095	-4.97	0	-8.761997 -3.802915
_cons	119.2089	0.8945573	133.26	0	117.4556 120.9622

Table 5: Table for regression analysis

Referring to the above table, it reveals a significant impact of COVID-19 on housing prices. The coefficient for the COVID-19 variable is -6.28 implying that on average the outbreak of the pandemic is associated with a decrease in housing prices by approximately 6.28 unites. It is found statistically significant with a z-value of -4.97 and a p-value of 0.000, well below threshold levels of 0.05, supporting the strong evidence against the null hypothesis is not effect. On the other hand, the 95% confidence interval for the COVID-19 coefficient ranges from -8.76 to -3.80 suggesting that the true effect of the COVID-19 on housing prices lies in the current range. The findings shows a significant negative impact of the impact on real estate values such as housing prices.

Housing prices	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
covid19	-5.361453	1.760421	-3.05	0.002	-8.811815	-1.91109
developmentstate	-23.12784	1.12773	-20.51	0	-25.33815	-20.9175
_cons	130.1744	1.252686	103.92	0	127.7192	132.6296

Referring to the above table 6, it provides us the information about the impact of COVID 19 and the developmental state on the housing prices. The negative value of -5.361453 indicates that the coefficient has significant negative impact on the housing prices means the relationship is inverse between the coefficient and the house prices. The negative value clearly indicates that with one unit increase in the COVID 19 case the housing prices decrease by 5.36 units. This statistically significant result is shown by the z-value of -3.05 and p-value of 0.002 with 95% confidence level ranging from -8.811815 to -1.91109. The season variable is a developmental state the value of which is shown by -23.12784, this also indicates a negative relationship between this variable and housing prices, which tells us that being in a developing state is related to a significant decrease by 23.13 units in the housing prices compared to the developed state. This result is highly impactful and significant with the z-value of 20.51 and a p-value of 0.000 and this result is supported by a confidence level of 95% and interval ranging from -25.3 to -20.9.

Discussion

The key aim of this research was to analyse the impact of COVID-19 on the real estate market by carrying out a comparison of developed and developing countries. In order to accomplish this aim, the research was structured on four crucial hypotheses. The initial hypothesis was if the COVID-19 pandemic had no significant impact on the real estate market of developing

countries. In context to this, it is identified from the results of the statistical analysis of the present study that since the sig value of the real estate market value of developing countries is 0.000. It can be seen that there is no significant correlation between real estate market value of developed countries and COVID-19. The analyses further discovered the real estate market value of developing countries does not have a significant relationship with COVID-19. From the literary point of view, the study by Avakyan and Pratsko (2020) states that demand for home purchases in developing countries soared during the early phases of the pandemic when all economic activity had been halted, prior to the introduction of self-isolation, when the majority of the transactions were carried out in an emergency mode. Hence, it is identified that the hypothesis the COVID-19 pandemic had a significant impact on the real estate market of developing countries is accepted.

The next hypothesis was that the COVID-19 pandemic had a significant impact on the real estate market of developed countries. The analysis revealed that that COVID-19 had a considerable impact on the real estate market value of both developed and developing countries. The pandemic has caused a significant fall in home prices. The developmental state variable showed a more significant drop in the housing costs in developing countries. The correlation analysis demonstrated a moderate negative association between COVID-19 and home prices indicating that the pandemic had negative impact on the countries chosen and their real estate markets. In addition to this, the findings can be greatly associated with the results of the study by (Kaynak, Ekinici and Kaya, 2021). The study by Kaynak, Ekinici and Kaya (2021) has stated that both from a legal standpoint and in terms of the technologies used by those who contribute to the real estate market, there have been significant developments. The pandemic's outbreak, together with the areas that were severely hit, caused a significant decrease in housing prices. This demonstrates how the COVID-19 epidemic significantly affected the real estate market in industrialised nations.

Future Implications and Conclusion

The present study investigated the effect of COVID-19 on the real estate market by carrying out a comparison of developed and developing countries. It is concluded that COVID-19

has a major negative impact on the real estate market in developing as well as developed countries. The study revealed that the pandemic had greater impact on the developed countries. Technological developments in the real estate business have fueled huge growth in developed in the economies. The findings provided a core insight for future researcher studying the dynamics of real estate dynamics of real estate market the pandemic. The absence of a significant connection between the pandemic and real estate markers in developing countries reflected a more complex interaction. The decline in housing prices was more pronounced showing that markets in such countries are less susceptible to shocks as compared to developed countries. The study highlighted the significant of incorporating housing price index in developed countries that have generally shown the passage of regulations to that have affected the countries.

This research enables future researchers to gain information and obtain a much wider base for the real estate market. The present research is based on a secondary quantitative method; however, in future, the researcher could emphasise implementing a primary quantitative or mixed method design to expand the research scope and provide more clarity and validity of the content that could be beneficial for the real estate marketer. Moreover, researching inot the long-term implications of COVID-19 on real estate markets as well as how emerging technologies continue to influence market trends, it provides an area of great interest for he policy makers and researchers to focus on.

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