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PROPERTY MARKET AND THE FINANCIAL SECTOR: EXPLORING MALAYSIA'S SCENARIO IN TIMES OF CRISIS

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Abstract

Amidst the global economic crisis caused by the COVID-19 pandemic, the financial sector faces an uncertain path due to various policy measures. This paper delves into the spillover effects of the relationship between Malaysia's property market and the financial sector. Using the Autoregressive Distributed Lag (ARDL) cointegration bound test, utilizing time-series data from Q12009 to Q32021, the empirical findings reveal a notable spillover effect of the pandemic on the relationship between the property market and financial sector development in Malaysia. Moreover, the marginal impact of the housing market and rental market on the development of the financial sector is elucidated by factors such as risk-averse behaviour, slower GDP growth, and government intervention through policy initiatives. It is crucial to consider this scenario as a precautionary measure, highlighting the potential for crisis prevention, despite the expansionary financial and monetary measures adopted in response to the pandemic-induced crisis.

Keywords: COVID-19, spillover, property market, financial sector, Malaysia

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INTRODUCTION

Malaysia's economy contracted by 17% in Q2 2020 due to the COVID-19 pandemic (Kadhim et al., 2021). Movement Control Orders (MCOs) and shifts in consumer behaviour disrupted consumption, posing significant challenges. Measures like social distancing and remote work affected demand for office space and hotels, creating uncertainty in the real estate sector (Balemi et al., 2021). The significant impact of the rise in the unemployment rate to 4.5% in 2020 from 3.3% in 2019, as reported by the Department of Statistics Malaysia (2020), is evident in its effect on individuals' financial capacities. During the Movement Control Orders (MCO), Malaysia experienced a daily loss of RM2.4 billion, amounting to RM63 billion in total, as reported by Hashim et al. (2021). This significant financial toll directly impacted various financial obligations. However, the government swiftly implemented measures such as stimulus packages and an economic recovery plan to mitigate the impact of COVID-19 challenges, particularly during the multi-phase Movement Control Orders (MCOs) as outlined in Table 1. Initiatives like the introduction of loan moratoriums starting April 1, 2020, provided crucial relief to individuals and SMEs. These efforts, coupled with ongoing vaccination campaigns, played a pivotal role in alleviating MCO restrictions, reviving Malaysia's economy, and alleviating economic strain.

Event	Start Date	End Date
Lockdown orders		
Movement Control Order 1.0 (MCO 1.0)	18 March 2020	3 May 2020
Conditional Movement Control Order 1.0 (CMCO 1.0)	4 May 2020	9 June 2020
Recovery Movement Control Order (RMCO)	10 June 2020	13 October
		2020
Conditional Movement Control Order (CMCO 2.0)	14 October	12 January 2021
	2020	
Movement Control Order (MCO 2.0)	13 January 2021	4 March 2021
Conditional Movement Control Order (CMCO 3.0)	5 March 2021	6 May 2021
Movement Control Order (MCO 3.0)	7 May 2021	31 May 2021
Full Movement Control Order (FMCO)	1 June 2021	14 June 2021

 Table 1: Chronology of Movement Control Order (MCO) in Malaysia

Source: Authors' own data

Over the past two decades, Malaysia's property market has experienced rapid growth, presenting substantial investment opportunities. Despite maintaining stability through previous challenges, the market has exhibited a gradual decline since 2015, with a persistent downtrend even preceding the onset of the pandemic. With the announcement of the pandemic in 2020, the market experienced a further disruption. Concerns about affordability have emerged as potential disruptors to real estate demand, and responses from fiscal and monetary

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policies are critical considerations amidst these evolving dynamics. Between 1990 and 2019, the property industry in Malaysia experienced remarkable growth, with the total number of transactions more than doubling from 148,000 to over 328,000. According to PropertyGuru (2021), these transactions were valued at RM141.40 billion in 1990. The performance of the property market exhibited a modest improvement in 2021 but has not yet exceeded the pre-pandemic levels noted before 2020. With over 300,000 transactions amounting to nearly RM145 billion recorded, there was a 1.5% uptick in volume and a 21.7% increase in value compared to the figures in 2020 (refer to Figure 1). These figures highlight the remarkable resilience of the property markets, which have navigated through various crises, including the Asian financial crisis in 1997, the Global Financial Crisis in 2007, as well as outbreaks of diseases such as SARS, Avian Flu, Swine Flu, and Ebola.



Figure 1: Value of Property Transaction and Annual Changes 1990 – 2021 Source: National Property Information Centre (NAPIC), Malaysia

The current literature on the property market extensively delves into house price dynamics and their repercussions (Khan et al., 2022; Geng, 2018; Kok et al., 2018), alongside exploring the volatility within the housing market (Deng et al., 2018). While preliminary studies have examined the impact of COVID-19 on the real estate sector (Tanrıvermiş, 2020; Allen-Coghlan et al., 2020; Qian et al., 2021), the interconnectedness of various economic sectors necessitates further investigation into the spillover effects. This understanding is pivotal for crafting effective risk management strategies and policies that cater to the needs of both property investors and policymakers. The imbalance in asset price development often contributes to financial distress, affecting the overall

financial stability of a country (Barua and Barua, 2021). The expansion of the financial sector has created numerous opportunities for the real estate market.

Existing evidence supports the idea that financial development positively influences economic growth, as evidenced in many literature (Benhabib and Spiegel, 2000; Christopoulos and Tsionas, 2004; Levine, 2005; Hassan et al., 2011). Specifically, the spillover effects of well-developed financial institutions and systems can benefit a country, promoting capital mobilization which in turn, bolsters consumption, investment, as well as both exports and imports, thereby contributing to economic growth. Conversely, the stability of the financial sector remains a crucial consideration in monetary policy formulation. This investigation is particularly pertinent given the contemporary significance of financial sector stability, aiming to prevent future crises akin to the 2008 subprime mortgage crisis. The urgency is underscored by the need to attract foreign investors and foster domestic growth within the real estate industry.

LITERATURE REVIEW

Scholarly interest in understanding the economic impact of pandemics has led to the emergence of two distinct strands of literature: the intersection of pandemics with the financial sector, and with the real sector. The theoretical connection between the financial and real sectors, as discussed by monetarist scholars such as Friedman and Schwartz (1963), often relates crises to disruptions in the money supply. Despite these theoretical foundations and the recent crisis triggered by health issues, findings in the literature have not provided a clear prediction of its economic effects. Su et al.'s (2020) study comparing the connectedness of stock returns in four recent financial crises revealed a contrasting scenario during the COVID-19 outbreak. Unlike the first three crises, market factors could not adequately explain the co-movement of stock returns, resulting in a substantial increase in network connectedness in financial networks in March and April 2020. This heightened connectedness implies a significant increase in systemic risk in the financial system during the COVID-19 outbreak, aligning with Ali et al.'s (2020) compilation of daily prices and returns of MSCI indices for the top nine COVID-19 most affected countries.

The coronavirus has proven to be detrimental to financial markets, inducing unforeseen levels of uncertainty and high volatility. Within a mere 100 days, nearly 30% of wealth globally eroded off bourses. A study on the Shariah Bank financial performance during the COVID-19 pandemic from 2011 to 2020 found that Capital Adequacy Ratio (CAR), Operating Costs to Operating Income (BOPO), and Financing to Deposit Ratio (FDR) positively and significantly affected financial performance (ROA). Conversely, the pandemic is believed to have instigated irrational panic (Shanaev et al., 2020), supported by Ali et al.'s

(2020) study showing a negative and significant relationship between the return of most financial securities and COVID-19 deaths from January 2020 to March 2020. Haroon and Rizvi (2020) noted a positive association between the panic index and world index volatility, illustrating the link between media-induced panic and heightened uncertainty in financial markets. Moreover, negative sentiment in news communications is correlated with increased volatility in the US market returns, suggesting that panic generated by news outlets contributes to higher volatility in equity markets.

In the real sector, the consistent negative impact on the economy has been observed, particularly due to labour market disruptions caused by Movement Control Order (MCO) implementations (Almeida and Santos, 2020). Germany, Spain and the UK experienced a significant positive change in unemployment due to COVID-19, indicating a causal relationship between COVID-19 cases and unemployment in these countries (Su et al., 2021). Studies focusing on ASEAN countries, such as Ozili and Arun (2020) and Chong et al. (2021), reveal that increasing lockdown days, monetary policy decisions, and international travel restrictions had severely affected economic activities. Mustaffa et al. (2021) further indicate that COVID-19 has prominently impacted various economic indicators in Malaysia, including the unemployment rate, gross domestic product (GDP), consumer price index (CPI), foreign exchange rate (FOREX), and stock market index performance, although evidence of the spillover effect of the pandemic remains relatively scarce.

METHODOLOGY

The baseline analysis starts with a basic model modified by Batuo et al. (2018), where the study focuses on the issue of financial sector stability. The estimated model is shown in Equation (1)

 $\begin{array}{l} \textit{Financial sector development} = \beta_0 + \\ \beta_1 \textit{Financial sector development}_{t-1} + \beta_2 \textit{Macro}_t + \beta_3 \textit{PP}_t + \\ \beta_3 \textit{Pandemic}_t + \varepsilon_t(1) \end{array}$

where financial sector development is the financial sector condition, Macro is the macroeconomic variables representing the current economic conditions, and are the control variables in the model which would affect the financial sector in the economy. Additionally, PP is the property market and ε_t is the error term. The model incorporates a pandemic variable, represented by the World Pandemic Uncertainty Index (WPUI) to examine the impact of the pandemic specifically COVID-19 on Malaysia's financial sector. In further exploration of stability conditions, an interaction term is introduced, involving the pandemic, property market indices, and macroeconomic indicators. This

inclusion aims to scrutinize the complementary roles of the pandemic in influencing not only financial sector development, but also the property market. Table 2 provides a comprehensive list of variables utilized in the analysis.

The dependent variable, which is the financial sector development, is gauged through money supply (M2), liquid assets ratio, liquid assets to short-term liability, and credit-to-GDP variables. Macroeconomic variables include real GDP growth rates, inflation rate, government expenditure, and changes in the term of trade. The property market is represented by the House Price Index and the Purpose-Built Office Rental Index (PBO-RI) for both the city center and areas outside the city center. The pandemic is quantified using the World Pandemic Uncertainty Index (WPUI) from the Economist Intelligence Unit (EIU).

The dataset comprises quarterly observations spanning from Q1:2009 to Q3:2021 for Malaysia's economy, with an exception for PBO-RI, which extends up to Q2:2021. Equation (2) demonstrates the spillover effect of the pandemic on the relationship between the property market and the financial sector development.

 $\begin{aligned} & Financial\ sector\ development_t = \beta_0 + \\ & \beta_1 Financial\ sector\ development_{t-1} + \beta_2 Macro_t + \beta_3 PP_t + \\ & \beta_4 Pandemic_t + \beta_5 PP_t * Pandemic_t + \varepsilon_t \ (2) \end{aligned}$

To explore the complementary roles of the pandemic in influencing the property market's effects on financial sector development and capture the spillover effect, an interaction analysis between the pandemic and the property market is conducted. The analysis then progresses to cointegration tests, employing the Autoregressive Distributed Lag (ARDL) cointegration bound test developed by Pesaran et al. (2001). This approach involves the Wald test, which is an F-statistic version of the bound testing approaches for lagged level variables in an Unrestricted Error Correction Model (UECM). The procedure unfolds in two stages before establishing the long-run relationship. A joint significance test on lagged level variables is conducted to assess the null hypothesis of a noncointegrating relationship (Ho: $\delta 1 = \delta 2 = \delta 3 = ... = \delta n = 0$).

In the first stage, the F-test examines the asymptotic distribution of the F-statistic, which is non-standard under the null hypothesis of non-cointegrating relationship. Irrespective of whether the explanatory variables are purely I(0) or I(1), if the Wald test statistic falls outside the critical bounds at conventional significance levels (10 %, 5 %, and 1 %), a conclusive inference can be drawn without considering the order of integration. Rejection of the null hypothesis of no cointegrating relationship occurs if the F-statistic exceeds the upper critical bound. Conversely, if the test statistic falls below the lower critical bound, the

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null hypothesis of non-cointegration cannot be rejected. When the F-statistic falls between the upper and lower bounds, a conclusive inference cannot be made. Moving to the second stage, the ARDL approach involves estimating coefficients on the long run cointegrating relationship and the corresponding error correction model. The lagged error correction term (et-1) derived from the error correction model plays a vital role in the dynamics of the cointegrated system, enabling adjustments back to the long-term equilibrium relationship following deviations from the previous year.

Variable	Data source
M2; Ln(M2)	Bank Negara Malaysia
Liquidity assets ratio	IMF- Financially Sound Indicator
Liquidity assets to short-term liabilities	IMF- Financially Sound Indicator
Credit to GDP	Bank of International Settlement (BIS)
World Pandemic Uncertainty Index (WPUI)	https://worlduncertaintyindex.com/data/
Real GDP; ln(RGDP)	Department of Statistics Malaysia (DOSM)
Real GDP growth rate	Department of Statistics Malaysia (DOSM)
Real Effective Exchange Rate (REER)	Department of Statistics Malaysia (DOSM)
Consumer Price Index (CPI)	Department of Statistics Malaysia (DOSM)
Government consumption growth	Department of Statistics Malaysia (DOSM)
(GOVTCONSG)	
Change in terms of trade (CTOT)	Department of Statistics Malaysia (DOSM)
Overall House Price Index (HPI)	National Property Information Centre (NAPIC)
Terrace	National Property Information Centre (NAPIC)
High-rise	National Property Information Centre (NAPIC)
Detached	National Property Information Centre (NAPIC)
Semi-detached	National Property Information Centre (NAPIC)
PBO-RI city center	National Property Information Centre (NAPIC)
PBO-RI outside the city center	National Property Information Centre (NAPIC)

Table 2: Variable Definitions

The Spillover Effects of the Pandemic

To examine the spillover effects, the study employs the Bound Test and marginal effects. In Table 3, the Bound Test results indicate a long-run relationship between the property market indicator, macroeconomic indicator, pandemic indicator, and financial sector development. The F-statistics calculated for Models 1a), 1d), 2a), 2b), 3b), 4a), 4b), 4c), 4d), 4e), 4f), and 4g) in Table 3 surpasses the upper bound critical values at a 5% significance level, leading to the rejection of the null hypothesis of non-cointegration among the variables.

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Table 3: The Bound Test						
			Model 1	Model 2	Model 3	Model 4
Dependent variable		Ln(M2)	Liquidity assets ratio	Liquidity assets to ST liability	Credit- to-GDP	
Independent	Property 1	erty market Test statistics (F-bound test)				
variable	indicators	5				
WPUI, LRGDP, CPI, GOVTCONSG, CTOT	a)	Overall HPI	4.714*	4.913*	4.104	7.064*
	b)	Terrace	3.658	9.702*	7.498*	8.035*
	c)	Detached	3.569	2.390		13.497*
	d)	Semi- detached	10.098*	2.507	1.815	11.271*
	e)	High rise	1.521	2.426	2.951	9.294*
	f)	PBO-RI city center	1.306	2.354	1.894	8.380*
	g)	PBO-RI outside the city center	0.843	2.343	1.826	8.472*

The results show the existence of a long-run relationship where the variables are moving together and will not deviate from each other. It also indicates that the independent variable plays a significant role in influencing the movement of financial development indicators. However, further investigation of the error correction models shows an insignificant effect, implying that there is no long-run relationship for Models 1a) and 1d). Meanwhile, there is robust evidence of a long-run relationship for Models 2a), 2b), 3b), 4a), 4b), 4c), 4d), 4e), 4f) and 4g).

The baseline models show that WPUI has a positive and significant effect in all of the models (except Model 3d) on the financial sector indicator at least at a 5 % significance level. Intuitively, as the pandemic hits the country, and coupled with government restrictions to control the spread of the disease, it shows an increase in financial soundness indicator reflected by the precaution measure by the financial sector. The pandemic is placing enormous strains on cash buffers and involves uncertainty on how long it will have to be prolonged, which has led to an increase in the liquid ratio of the financial sector. This is to buffer or promote the resilience of the banking sector. Initially, the measures are meant to affect credit growth in the domestic and foreign markets. However, this liquid property of assets and liabilities can change drastically during a crisis period (Hardy and Hochreiter, 2014).

The coefficient of error correction model that is explained by the speed of adjustment in the event of shock shows that it will take around 30.3 to 84.1 % (3 quarters or the fastest 1 quarter) to converge to equilibrium in the event of a shock. All model passes the diagnostic test, which implies that there is no evidence of serial correlation and heteroscedasticity problem in the estimated model.

Looking into the property market indicator which represents by HPI, PBO-RI for the city center and PBO-RI for outside the city center, our estimation shows a positive relationship with the financial sector development indicator (Models 4a to 4g) at a 5 % significance level. In addition, the coefficient of the PBO-RI city center shows the highest effect with 1.038, which implies that an increase in the PBO-RI city center would promote financial sector development at the highest rate as compared to other property market indicators. Overall, the impact of the pandemic on financial sector development is sensitive to the financial sector development indicator used. Besides that, the effect of the property market on financial sector development is robust across various indicators employed in the study.

To further investigate the spillover effect on financial sector development, the marginal effect is presented in Table 4. Without the pandemic indicator, the financial sector indicator namely the liquid asset ratio in Model 2a has a negative sign, explaining one %age change in HPI will affect the liquid asset ratio by -0.22. The data seems to suggest that even before the pandemic, the financial sectors are facing a higher risk. Bank risk is influenced by housing prices - higher house prices lead to higher bank risk (Banai and Vago, 2018). Further interaction of WPUI indicates that liquid asset ratio was further affected. This deterioration of liquidity position and financial health of the financial institutions may worsen during the emergence of this pandemic. In the event of a pandemic, an increase in the house price reflects the stability of the bank. The interactions indicate a decline in liquid to-assets ratio as banks' expected loan losses to increase for two reasons: (1) the value of collateral decreases, which raises the loss given default (LGD); and (2) the probability of default (PD) increases as it becomes less worthwhile for the borrower to continue servicing the debt. Thus, if a bank tries to elevate its lending volume, borrowers may borrow at a lower interest rate. Then, the present value of the property investment may rise as the discount rate falls (Che et al., 2011). This procedure considers not merely loan interest rates, but also macroeconomic indicators like GDP growth rate, price level, and business cycles.

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$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Terrace Price Index						
index Image: Construction of the second	Terrace price	-5 782(WPUII)	0.00	-130/10	-12.02		
$\begin{array}{c c c c c c c } \hline \textbf{Long-run coefficient of model 4a} \\ \hline \underline{Dependent variable:} \\ \hline Credit-to-GDP & & & & & & & & & & & & & & & & & & &$	index	-5.762(W101)	0.00	-157.40	-12.02		
$\begin{array}{c c c c c c c } \hline \underline{Dependent \ variable:} \\ \hline Credit-to-GDP & WPUI=0 \\ \hline Property \ Market \ Indicator: \\ \hline Overall \ HPI & 0.562- \\ \hline 0.251(WPUI) & 0.56 & -5.49 \\ \hline 0.251(WPUI) & 0.56 & -5.49 \\ \hline \ Dependent \ variable: \\ \hline Credit-to-GDP & MVPUI=0 \\ \hline \underline{Dependent \ variable: \\ Credit-to-GDP & WPUI=0 \\ \hline \underline{PBO-RI \ city \ center} & 1.528- \\ \hline PBO-RI \ city & 0.27(UPUI) \\ \hline \end{array}$	Long-run coefficie	nt of model 4a					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Dependent variable:						
$\begin{array}{c c c c c c c c } \hline Property Market Indicator: \\ \hline Overall HPI & 0.562- \\ 0.251(WPUI) & 0.56 & -5.49 & 0.04 \\ \hline \\ $	Credit-to-GDP		WPUI=0	WPUI=24.11	WPUI=2.079		
Overall HPIImage: Colspan="2">Image: Colspan="2" Image: Co	Property Market Indicator:						
Overall HPI 0.562 - $0.251(WPUI)$ 0.56 -5.49 0.04 Long-run coefficiert of model 4f $Dependent variable:$ Credit-to-GDPWPUI=0WPUI=24.11WPUI=2.079Property Market Indicator: PBO-RI city centerPOPUI = 0 1.528 - 1.53 -7.54 0.75	Overall HPI						
Uong-run coefficient of model 4f Dependent variable: Credit-to-GDP Property Market Indicator: PBO-RI city center PBO-RI city 1.528- PRO-RI city 0.251(WPUI) 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.31 0.32 0.32 0.33 0.75	Overall HPI	0.562-	0.56	-5.49	0.04		
Long-run coefficient of model 4f WPUI=0 WPUI=24.11 WPUI=2.079 Property Market Indicator: PBO-RI city center PBO-RI city 1.528- 0.275 (WPUI) 1.53 -7.54 0.75		0.251(WPUI)	0.50	-57	0.04		
Dependent variable: Credit-to-GDP WPUI=0 WPUI=24.11 WPUI=2.079 Property Market Indicator: PBO-RI city center PBO-RI city = 0.275 (WPUI) 1.53 -7.54 0.75	Long-run coefficie	nt of model 4f					
Credit-to-GDP WPUI=0 WPUI=24.11 WPUI=2.079 Property Market Indicator: PBO-RI city center PBO-RI city center 0.75	Dependent variable:						
Property Market Indicator: PBO-RI city center PBO-RI city 1.528- 1.53 -7.54 0.75	Credit-to-GDP		WPUI=0	WPUI=24.11	WPUI=2.079		
PBO-RI city center 1.528- 0.75 PBO-RI city 0.276 (UPU II) 1.53 -7.54 0.75	Property Market Indicator:						
PBO-RI city 1.528- 0.75 0.75	PBO-RI city center						
1.55 -7.54 0.75	PBO-RI city	1.528-	1.52	7 5 4	0.75		
center 0.3/6(WPUI)	center	0.376(WPUI)	1.55	-7.34	0.75		
Long-run coefficient of model 4g	Long-run coefficient of model 4g						
Dependent variable:	Dependent variable:						
Credit-to-GDP WPUI=0 WPUI=24.11 WPUI=2.079	Credit-to-GDP		WPUI=0	WPUI=24.11	WPUI=2.079		
Property Market Indicator:	Property Market Indicator:						
PBO-RI outside the city center	PBO-RI outside the	city center					
PBO-KI outside 1.482(WPUI) 0.00 35.73 3.08	PBO-KI outside	1.482(WPUI)	0.00	35.73	3.08		
the city center	the city center						

 Table 4: Marginal Effect

Moreover, as HPI quantify the residential real estate prices, the market will then integrate direct or indirectly which then enables them to move together (Yusof et. al., (2019), Gao and Topuz 2020; Mohan et. al., 2019). Thus, the cross-market information will be used by the investors in making an investment decision. Although in the absence of an asymmetric long-run relationship, the cross-market information will still be risky, particularly in dealing with the

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COVID-19 pandemic which gripped the global markets in an unprecedented manner and caused a high level of uncertainty in the economy. Given this, banks will not take the risk particularly related to anything associated with the willingness and ability of their customers to perform their obligation which then affects their non-performing loan level. Also, the bank will liquidate and minimize its liquid assets. On the other hand, Model 3b indicates that although the terrace price index is not significantly affecting the liquid assets to short-term liability, if the pandemic persists indicated by the interaction term at the maximum point of WPUI, the total effect of the terrace price index on the liquid assets to short term liability will be negative. In the event of a pandemic, an increase in house prices is associated with a slight increase in liquid assets to short-term liability. It suggests that a rise in house prices, particularly terraces are associated with financial institutions which are risk-averse to implementing a restrictive policy and limiting financing activities.

Additionally, from the consumer behavior perspective, financial standing uncertainties and business closures are among the reasons for holding cash rather than depositing it in bank accounts. Specifically, rising real estate prices may put banks at greater risk. It is possible to produce moral hazard and the problem of adverse selection (Bernanke et al., 1996). When real estate values rise, risky borrowers who believe the trend will continue will demand more loans. Banks will then provide loans at abnormally low-interest rates if they predict real estate values will continue to climb, as banks believe that the risk of mortgage financing is negligible. The deviation hypothesis states that if the price of real estate values vary too far from fundamentals and price volatility rises, banks' possibilities of default rise as well. As a result, real estate price variations may have both a positive and negative influence on a bank's performance.

Further, overall HPI was included in Model 4a. The pandemic indicator represented by the WPUI suggests a positive relationship with the financial sector indicator, namely the credit-to-GDP. However, as the interaction of WPUI is considered, the negative coefficients of the interaction term indicate that any increase in one point of WPUI would reduce the positive effect of overall HPI. At the maximum point of WPUI, the total effect of overall HPI becomes negative. Thus, it shows that during the pandemic, an increase in house prices is associated with a slight decrease in credit to GDP. This predicament arose as a result of the drop in GDP. During the pandemic, banks will expand their current liquidity facilities by lowering interest rates, expanding the types of eligible collateral, and broadening the number and types of eligible clients, as it is customary. The key distinction between current and new lending policies was that a substantial portion of the new facilities was aimed at the private sector, including lending measures to help households and non-financial corporations in getting credit.

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After accounting for the pandemic effect, Model 4f demonstrates that the total effect of PBO-RI city center on Credit-to-GDP is negative. Therefore, in a steady economy, consumption which is represented by rental income rises. In consequence of the capacity and desire to commit to financing facilities supplied by banks, credit to GDP will be stimulated. Meanwhile, in a poor economy, consumers' capacity, and willingness to commit to financial facilities provided by the financial institution will dwindle due to decrease in rental income. Moreover, the average asking rentals in the city center localities have declined because of lower occupational demand among expatriates and corporate tenants as Malaysia has temporarily closed its borders to incoming foreign nationals or expatriates, temporary work visa holders, and employment pass holders. PBO-RI outside the city center stated in Model 4g proves that the interaction effect will boost credit to GDP as the pandemic is prolonged. Given this, the situation can be explained through the decrease in GDP while credit to GDP increases. Also, due to MCO and business closures, most of the businesses are possibly moving to the outside of city center which has lower rental expenses. Thus, the ability to operate the business as usual will stimulate the ability and willingness of the borrower to apply for more loans which then boosts the credit demand in the banks.

CONCLUSION

Governments worldwide responded to the COVID-19 pandemic by implementing national or local lockdown orders, restricting business operations and urging households to observe social distancing by staying at home. These measures, designed to curb the spread of the virus, obviously altered property purchasing behaviours and impacted businesses reliant on face-to-face interactions such as property agencies. The search processes of property buyers were disrupted, leading to prolonged sale completions. COVID-19 introduced market friction to the property market, negatively affecting transacted prices and liquidity. Mobility declined almost entirely during the lockdown orders, reflecting market frictions akin to a negative demand shock, where traditional bidding processes became challenging. Limited studies have directly observed real estate price dynamics during the COVID-19 pandemic, and most analyses remained at an aggregate level.

The global spread of the COVID-19 virus disrupted economies, financial systems, and societies. Given the uncertainty about the pandemic's impact on the property market, this study aims to provide fresh evidence on its spillover effect on both the property market and the financial sector. Specifically, this research explores the dynamic interrelationship between the property market and the financial sector resulting from the pandemic. The results indicate a significant spillover effect between the pandemic, the property market, and the financial sector. Additionally, it is observed that there is a negative marginal effect for all interaction variables between property market indicators and the pandemic.

Notably, the negative marginal effect between the property market and the financial soundness indicator, which is represented by the liquid assets ratio, suggests a risk to financial sector stability. Similarly, the negative marginal effect of the property market on financial sector growth signals risk-averse behaviour in the banking sector, indicating slow growth in the country. The Government and the central bank measures, including loan moratoriums, have disrupted the market and made banks more risk averse. The Movement Control Order (MCO) has ushered in a new working norm of remote work, reducing occupational demand in the rental market. These findings provide valuable insights for policymakers, aiding their understanding of changes in spillover effects caused by COVID-19 and guiding the formulation of post-pandemic recovery policies. The evolving financial sector landscape shifts in industrial player behaviour, and emerging norms should be considered when designing robust post-recession recovery measures. Policy formulation needs to safeguard not only the property market against the effects of the pandemic, but also be cognizant of spillover effects on the financial sector, recognizing the critical role of financial sector stability in promoting sustainable development for both banking and the real economy.

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