



Faculty of Economics and Business

**INDICATOR APPROACH TO HOUSING MARKET ANALYSIS
IN SARAWAK**

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SARAWAK**

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Statement of Originality

The work described in this project, entitled
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is to the best of the author's knowledge that of the author except
where due reference is made.

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ABSTRACT

INDICATOR APPROACH TO HOUSING MARKET ANALYSIS IN SARAWAK

By

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The present study evaluated the movement of housing cycle in Sarawak. A housing market indicator has been constructed for the case of Sarawak through an indicator methodology founded by The National Bureau of Economics Research (NBER) of the United States. Furthermore, various empirical issues such as stationarity of time series, cointegration of variables, indicator construction and filtering exercise have been examined empirically to administer further understanding towards the construction of indicator.

In addition, the objective to construct a novel housing market indicator (HMI) with leading attributes is believed to be successful. The constructed HMI displayed an outstanding leading period of 10 months on average. Moreover, the HMI is found to be moving consistently with the housing price index (HPI) of Sarawak in terms of magnitude and also successfully traced down all the major economic incidents that affected Sarawak.

In a nutshell, the HMI has provided a remarkable outlook on the housing market dynamic in Sarawak. The findings of this present study may serve as a good reference of the housing cycle in Sarawak. Policy maker, business sector and household investors can have a better insight towards the fluctuation movement of the housing market and carry out their plans in the investment and policy development in housing sector.

ABSTRAK

TEKNIK PETUNJUK UNTUK ANALISIS PASARAN PERUMAHAN DALAM SARAWAK

Oleh

Voon Zhi Cheng

Kajian ini mengkaji pergerakan pasaran perumahan dalam negeri Sarawak. Sebuah petunjuk pasaran perumahan (HMI) telah dibina untuk kes Sarawak dengan menggunakan metodologi pembinaan petunjuk yang diasaskan oleh The National Bureau of Economics Research (NBER) daripada Amerika Syarikat. Selain itu, beberapa isu empirikal penting seperti kepegunan dalam siri masa, cointegrasi pembolehubah, pembinaan petunjuk dan teknik penapisan telah diperiksa dengan cara empirikal untuk menyediakan pemahaman yang selanjutnya terhadap pembinaan petunjuk.

Selain daripada itu, kajian telah berjaya untuk membina sebuah HMI novel yang memgandungi sifat pelapor yang menakjubkan. Ianya dapat meramal perubahan kitaran pasaran perumahan seawal sepuluh bulan dalam purata. Sementara itu, HMI didapati bergerak konsisten dengan indeks harga perumahan (HPI) Sarawak dalam

aspek magnitud dan ia juga berjaya mengesankan semua kejadian ekonomi penting yang menjejaskan Sarawak.

Kesimpulannya, HMI juga memberikan pengetahuan yang komprehensif untuk pergerakan pasaran perumahan dalam Sarawak. Dapatan kajian ini boleh dijadikan satu rujukan yang berguna untuk kitaran pasaran perumahan di Sarawak. Melalui pertunjukan HMI ini, pembuat dasar, sektor-sektor perniagaan dan pelabur isi rumah boleh mendapat pengetahuan yang lebih teliti tentang turun naik pasaran perumahan dan melaksanakan pelan pelaburan dan dasar pembangunan dalam sektor perumahan.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

The property markets have long been acknowledged as a crucial source of risk to financial stability. Over the past few decades, people have looked at property market as a good investment opportunity and today more people are gaining confidence to invest in property. Taking the perspective from an individual, property often represents the single largest investment in their portfolio, which contributes to individual's wealth. Notwithstanding the repeating trend of boom and bust, every crisis procure an exclusive countenance and something new is always there to be learned by precisely delves into the problems.

However, although the real estate has been regarded as an asset class for investment, it does not have many appropriate hedging instruments to account for its own risk (Shiller, 2003). Therefore, study of house price has long been viewed with concerns from many viewpoints such as demand, supply, financial institutions, policy makers and related professionals. Property markets participants are highly prone to risks as property market usually displays cyclical nature. The volatility in markets is associated with the amount and price of transactions. With a model of the real estate cycle, a lender can reduce the default risk from price declines and adjust lending strategies accordingly. Prudent lending is based on demand, rental rates, and supply of existing properties and new construction.

In order to understand the concept of housing market cycle or often being referred as real estate cycles, it is important to have some insight about business cycle as well. Real estate cycles and economic business cycles are similar whereby there is an interaction between the demand and supply which causes vacancy rates, rents and housing inventories to rise and fall over and over again (Chinloy, 1996). Throughout decades, much research was devoted to achieving an empirical characterization of the business cycle. Fortunately, there was this outstanding example of work performed by Burns and Mitchell (1946) which encapsulated that business cycles are a kind of fluctuation that occurs in economic activity of nations. A cycle consists of expansions occurring at about the same time in many economic activities. It is then followed by recessions, contractions and revivals which combine into the expansion phase of the next cycle (Burns & Mitchell, 1946).

Practically, considering business cycles and housing cycles have an almost similar concept. To such degree we can administer the identical procedures used in business cycle into the field of housing market. Amid the climate of the cycle which is the peak, housing inventories are high whereby sellers are significantly more than the buyers in the market. Housing is overbuilt and developers begin delaying new investments and the market enters a contraction phase. It is throughout this period of contraction, the buyers possess higher bargaining power than the sellers. As the overall economy continues to slow down, developers and buyers become cautious on their spending. Thusly, this phase is being labelled as the recession, although real estate transactions still arise but only few new housing projects are started as consumers delay their buying decisions. At the lowest point of the cycle, housing inventories are extremely low with few housing projects offered in consequence to the

uncertainties of the duration of market recession. When economy begins to recover from recession, confidence of people will eventually be restored to stimulate spending behaviour. Accumulation of demands for housing property will be expected because it takes time to develop new housing. This phase is called the recovery phase.

Housing indicators or indices have become increasingly important in order to understand the dynamics of property market in terms of price change, availability of market supply and potential demand. It grants potential developers, investors and decision makers a certain level of comfort and ideas before embarking on a development or investment in a particular area. Mansor (2012) stated that the purpose of property indicator is intended to provide policy makers and investors some ideas on the direction of real estate in the future and to strategize investment pattern that will fit the future market. The indicator can also serve as a prediction of consumer spending that is affected by components such as mortgage interest rates and the seasonal trends of the real estate business.

1.1 Background of the Study

In Malaysia, property market plays a prominent role in our economic growth. Malaysia's property price is still trending up despite world's situations which do not improve much financially and economically. As of 2011, the property market had maintained a double digit growth of 14.3 per cent in volume and 23.8 per cent in value. The local demand for property by Malaysians is huge with up-grader and young families getting richer. The fundamentals driving force of the property

market's growth in recent years have not changed, where the younger population is still leading to new household formation, a rising of middle income group, the supply-demand gap and stable employment in Malaysia.

During periods of robust economic growth, many have the notion that house price will persist to surge and making it unaffordable especially for during the years prior to the Asian financial crisis in 1997 and late 1998. Developing countries have learned that the provision of decent housing for all cannot be left to the play of the market forces alone. Therefore, governments found it necessary to intervene in the production of housing for their population. Under the Seventh Malaysia Plan (1996-2000) and Eight Malaysia Plan (2001-2005), Malaysian government are committed to provide adequate, affordable and quality housing for all Malaysian, particularly the low income group. The government also included for the first time low medium cost housing category in the Seventh Malaysia Plan for the medium low income group with salary ranged between RM 1,501 to RM 2,500 per month with target of 350,000 units are to be built during the plan period. Unfortunately only 72,582 units or 20.7% from the target units were built nationwide at the end of the Seventh Malaysia Plan.

The implementations of major housing policies are summarized in Table 1 while Figure 1 depicts the cyclical movement of housing price index (HPI) in Malaysia. Malaysia's property price index has been stable over the years despite constant hiccups of world crisis. This is mainly due to continuous high demand for properties with only about 3% foreign participation in the property market. Malaysia is currently enjoying continuous economic growth potential with recent world ranking

approved in business and banking sectors and being one of the top list for Foreign Investment Destination in Malaysia real estate.

Table 1: Malaysia Housing Policy in Brief

Phase	Period	Focus of Attention	Strategies	Policy Analysis
Colonial Period	Before 1957	<ul style="list-style-type: none"> • Housing for government staff. • Evacuation of people during the communist insurgencies to the new village. • Resettlement of people to FELDA scheme. • Housing provision for low income group especially in urban areas. 	<ul style="list-style-type: none"> • Building of government quarters based on requirement. • Constructing houses in the new settlements with facilities to accommodate more than 500,000 people. • Planning and development of FELDA scheme with the housing facilities. • Establishing Housing Trust in 1952. 	<ul style="list-style-type: none"> • Physical oriented. • Ad-hoc policy.
Early stage of Independence	1957-1970	<ul style="list-style-type: none"> • Housing emphasis is given to low income group in urban area. • Involvement of private sector in housing provision. • Advancement of basic facilities and infrastructures. 	<ul style="list-style-type: none"> • Involving Housing Trust with low cost housing development in urban areas. • Allowing private sector to concentrate on medium and high cost housing. 	<ul style="list-style-type: none"> • Government and private sector collaborate in overall housing provision.
New Economic Policy	1970-1990	<ul style="list-style-type: none"> • Removal of poverty and restructuring the society. • Implementation of Human Settlement Concept in housing development. • Low income group was given priority for housing. 	<ul style="list-style-type: none"> • Increasing of migration from rural to urban. • Large portion of low cost housing to be built by private sector. • RM25,000 is the ceiling price for low cost housing in 1982. • State agencies are established by government. • National unity is promoted in housing development. 	<ul style="list-style-type: none"> • Private sector has the biggest role in housing provision including low cost housing.
National Development Plan	1991-2000	<ul style="list-style-type: none"> • Carry on with the implementation of NEP policies. • Sustainable development was emphasized in Human Settlement Concept. • Regardless of income, 	<ul style="list-style-type: none"> • Building more affordable housing especially low and low medium cost housing. • Low medium cost as major component in housing provision 	<ul style="list-style-type: none"> • Private sector still hold the key position in housing provision but

Phase	Period	Focus of Attention	Strategies	Policy Analysis
		ensuring everyone lives in a decent house <ul style="list-style-type: none"> • Responsibility of provision of housing by private sector. 	since Seventh Malaysia Plan (1996-2000). <ul style="list-style-type: none"> • Eliminating squatters. • Government created new laws and guidelines in controlling private sector. 	government created new laws and guidelines to ensure quality housing.
Vision Development Plan	2001-2010	<ul style="list-style-type: none"> • Emphasis on sustainable urban development and adequate housing for all income groups. • Housing development will be integrated with development such as industrial and commercial. • ICT is emphasized. • Government plays a major role in providing low cost housing and private sector provide medium and high cost housing. 	<ul style="list-style-type: none"> • Continuing to provide guidelines and educating the citizens about sustainable development and encourage citizen to participate in housing development in line with Local Agenda 21. • Encourage more private developers to constructs low medium cost house. • Setting up Human Settlement Research Institute (MAHSURI) to encourage research and development in housing. 	<ul style="list-style-type: none"> • Government as key player in provision of low cost housing provision.

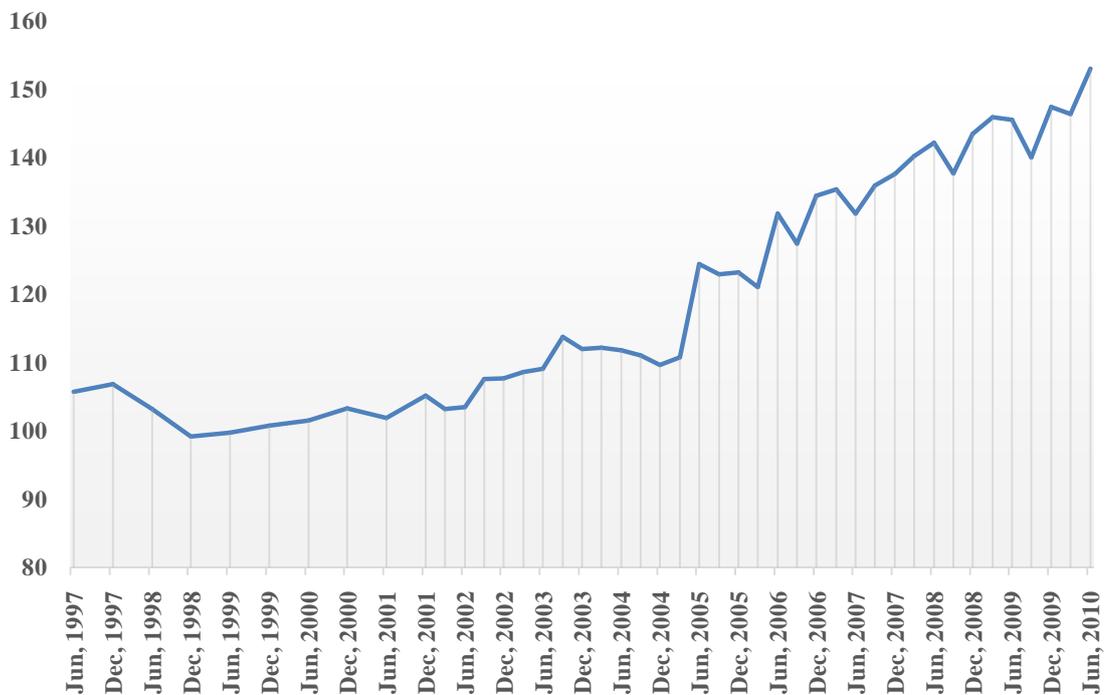
Source: *Percetakan Nasional Malaysia Berhad* (PNMB), various issues.

Figure 1 depicts that there was a significant downfall of HPI in 1998 with initial HPI of 106 plummeting to 99 in 1999. That was the aftermath of the Asian financial crisis. The crisis started in Thailand with the financial collapse of the Thai baht after the Thai government was forced to float the baht due to lack of foreign currency to support its fixed exchange rate, cutting its peg to US currency. As the crisis spread, most of the Southeast Asia countries were also affected. Undeniable, Malaysia was also one of the victims. In 1998, the output of real economy declined plunging the country into its first recession for many years. The construction sector contracted 23.5%, manufacturing shrunk 9% and the agriculture sector 5.9%. Overall, the country's gross domestic product plunged 6.2% in 1998. The HPI grew steadily

from 1998 to 2002 then plummeted during the middle of 2002 which is due to the stock market crash, a consequence of bursting dotcom bubble.

Eventually, the HPI increased with a trend of fluctuation until it peaked at 2003 when the economy of Malaysia grew 4.9% in 2003. In 2004, the activity in construction sector expanded but overall activity was subdued due to lower civil engineering activity, therefore, there was a slight decrease in the HPI during 2004 to 2005. The residential sub-sector remained important in supporting construction activity during the year of 2005. The demand for residential property was sustained by interest in new properties especially in prime locations. The increase in income levels amidst the stable employment market, low interest rates and attractive financing packages offered by financial institutions supported buying interest.

Figure 1: Sarawak Housing Price Index, 1997-2010



Source: Valuation and Property Services Department, Ministry of Finance, various issues.

During the year of 2006, government announced several crucial policy decisions that would influence construction activity going forward. This includes the announcement of higher Federal Government spending on infrastructure projects under the Ninth Malaysia Plan. The 17.6% increase in spending is mainly for the construction of highways, bridges, schools and water-related projects. The civil engineering subsector began to show encouraging signs, as activity gradually recovered to register a positive growth by the final quarter of the year.

Moreover, activity in the residential segment grew at a moderate pace as demand eased following the strong performance in previous years. This was reflected in the moderation in loan applications during the year. Housing developers also responded to changing market conditions by reducing launches of new properties and adapting to the changing requirements of consumers. Despite these efforts, the overhang of residential properties increased to 28,827 units by end-September 2006. In line with the overall market conditions, the Malaysia House Price Index rose at a more moderate pace of 2% in the first half of 2006. Despite the overall cautious attitudes of consumers, demand for residential properties near the city area remained strong.

In 2007, again, in construction sector recorded a positive growth of 4.6%. The expansion was driven mainly by the civil engineering sub-sector, and supported by expansion in the non-residential and residential sub-sectors. Federal Government development expenditure rose by 13.3% to RM40.6 billion in 2007 compared to RM35.8 billion in the previous year. The expenditure was mainly used to finance construction of new projects and upgrading of existing infrastructure facilities, such as

roads, schools, hospitals and government quarters. Nevertheless, strong growth in private consumption had also stimulated demand for retail properties. The HPI then continued to experience significant growth from 2007 to 2010 despite some minor downturns in the middle of the period. The construction sector expanded by 5.2% in 2010 (2009: 5.8%), with some moderation in the second half, due partly to the completion of projects. Growth was supported mainly by the non-residential sub-sector, reflecting the construction of commercial properties, particularly purpose-built office and retail space, and the upgrading and repair of public buildings. The civil engineering sub-sector continued to grow as the continuous progress in the implementation of infrastructure projects.

The house price index increased by 6% on an annual basis during the first three quarters of 2010, almost doubling the average increase of 3.4% during 2000-2009. The strong increment in prices was driven in large part by higher demand, due to continued growth in household incomes, improving consumer sentiments and the accommodative financing environment. By the middle of the year, prices of residential properties had increased by more than 10% on an annual basis but the pace of growth moderated towards end-year.

1.2 Overview of Housing Cycles

Housing and business cycle are related owing to the dominance of housing and real estate in total wealth and the sensitivity of these markets to interest rates. As house price rises during an economic outburst, non-homeowners lose wealth

relatively to those who already owned a house. According to the Survey of Consumer Finances of the Board of Governors of the Federal Reserve System (1995), real estate accounted for 56 percent of total wealth in 1992. Thus, movements in property prices have substantial effects on aggregate fluctuations. An unexpected gain in productivity in the aggregate economy increases income. Households and firms then spend their additional income on purchasing real estate and other goods.

Housing cycles can be broken into three main categories: short cycle, major cycles and long swing. As noted by Vanichvatana (2007), short run cycle which based on housing demand is commonly last from three to five years. In contrast, major cycle normally persists for nine to ten years because this type of cycle is based on a supply-side production lag. It occurs because real estate products require very much longer periods to develop when they respond to boom business-cycle demands. Conversely, long swing is the longest cycle with durations of minimum 20 years to maximum 30 years. This cycle reflects waves of urbanization when population expanded away from the nation's capital during periods of economic growth (Vanichvatana, 2007).

The real estate industry encompasses many product sectors including residential, low-rise and high-rise developments such as condominiums, offices, retail outlets, and industrial developments. Each sector may experience market fluctuations at different times. One of the example is the economic crisis happened in 1997 to 2000, mega-stores expanded rapidly while other property sectors were at the bottom. Residential properties, including detached homes, town houses, or condominiums all have different market cycles.

Similar to other businesses, the real estate industry is influenced by macro-economic factors and specific micro-economic factors. Many different important factors have been identified in conjunction with their levels of influence and relationship business cycles as well. Macro-economic factors can be categorized as gross domestic product and employment rates, financial factors including interest rates and foreign currency exchange rates, capital factors for example the stock exchange index, and geographic factors such as national income and population. Nonetheless, the micro-economic factors include real estate specific variables. For instance, one of the widely used variables is the number of approval for housing development applications. It is also a leading indicator that identifies housing numbers before construction permits are issued.

1.3 Fundamental of Indicator Approach

It was about more than half a century ago The National Bureau of Economic Research (NBER) of the United States is the pioneer of the leading indicator approach through which is it often being practiced economic and business forecasting. The broad acceptance of method is mainly due to three central reasons. As suggested by Zhang and Zhuang (2002), early disclosure and well-timed perception of business cycle. This technique is widely used to foresee turning point of business cycle in many countries.

Indicators can be segregated into three types: leading indicators, coincident indicators and lagging indicators. Leading indicators are factors that occur before the