

News and property prices in Hong Kong: Eugene Fama and Robert Shiller's theories revisit

Abstract

Many of the finance theories were built on the assumption of rational human behavior. They assume that financial markets were efficient: our optimization behaviors act according to the perfect information available in the markets. Nevertheless, the high transaction costs in our society imply that the axiom of perfect information is simply a Utopia story in the ivory tower. 2013 Nobel Prize laureate Eugene Fama suggests that asset prices are unpredictable. Not in the same vein, however, another 2013 Nobel Prize in Economist Robert Shiller, proposes that the rises and falls in asset prices are often guided by the psychology of the investors, ups and downs of the asset prices can speculated by studying market investors' behaviors. Given the above two diverse but contradictory points of views, we wish to reveal the property market behaviors in times of peak and trough via news recorded in 2003 and 2013 in Hong Kong. A hedonic pricing model is constructed to test if the asset prices are predictable or not with news available in the market.

Keywords: news, property prices, psychology of investors, Hong Kong

Introduction

Housing prices are affected by a bundle of factors (Li 2014). Chau et. al. (2001)'s research shows that housing prices in Hong Kong may not be determined by apartment's own attributes such as size, floor level and age, but macroeconomics factors. Lee (2009)'s research concedes that lower unemployment rate will increase the housing prices. The negative coefficient of past volatility of unemployment rates determines current volatility of housing prices. Hossain and Latif (2007)'s impulse responses analysis results prove that gross domestic product growth rate, housing price appreciation rate and inflation are the major determinants of Canadian house price volatility. Moreover, Karantonis and Ge (2007) propose that the real interest rate, real household income, dwelling completions and speculative investment are the driving forces of housing price in Sydney. This paper analyzes the effect of positive news and negative news on property price. It uses The Centa-City Leading Index

(CCL) to measure the property price. Hui & Nga suggest that (2009) reduction in real interest rate and household disposable income may lead to a rapid increase in housing. When the interest rate is low, they shall borrow more which stimulates the housing demand. Yanga & Turner (2004) propose that the influx of hot money inflates the housing bubble in China.

The impact of news on commodity prices

Impact of news on products' prices has been covered in the previous literatures. There are quite a number of studies show that negative news about a company affects consumer behavior and perceptions (Sago & Hinnenkamp 2013). Nguyen & Claus (2013) suggest that there are wealth of literatures which suggest that consumers only react to bad news, but not to good news: reduction in consumer sentiment decrease consumption while rises have no impact . Soroka (2006) even though good news increases the consumption, bad news decreases consumption, public responses to negative economic information more than positive one. Beck and Bhagat (1997) find that negative news such as the firm being sued has poor price performance than non-sued firms. Furthermore, Sago and Hinnenkamp (2014) point out that negative corporate news had adverse impact on consumer's affinity towards favorite brands and other consumer behavior variables such as price levels, brand perception, willing to pay and purchase. In Germany, the negative news reduces the confidence of the investors, they will buy less stock and stock price decreases (Lucke 2013). Steeley (2004) official macroeconomic statistics, such as inflation rates, the money supply ,unemployment and labour market variables, interest rates, government debt and unemployment can significantly change the distribution of a stock market index. Macroeconomic statistics is one of the types of news and these types of news can be positive or negative. They found that the size of news can affect the distributions with larger surprises having a greater impact.

Good news causes the share prices rise (Milgrom 1981). US economic expansion signals on the US positively affects the return of Vietnam stock market (Nguyen 2011). Krishnamurti et al. (2013) suggest that both good news and bad news affects stock prices. Nevertheless, good news has more significant impact on stock prices. Furthermore, the stock prices may be lower when there is good news. In sharp contrast, bad news has smaller impact on stock prices. When there is bad news, investors may not sell shares, stock prices may be even higher. Hassan (2011)'s research shows that both the negative and positive news affect the price volatility of

oil prices but the negative news affects the price in a greater extent than positive news.

The impact of news on the property markets

In Turkey, property prices are mainly affected by the news as it affects investors to make their investment plan and choices (Xu & Wang 2012). The news was written by some property sellers and they will disclose some information. There was a research that the property price was declined 4% after the seller disclosure some bad information out in USA (Pope 2008). By using two periods of good news and five periods of bad news, Schwann and Chau (2003) find that Hang Seng Property Index dropped 51.9% on average in times of bad news and the Hang Seng Property Index increased by 56.1% on average in periods of good news. Therefore, good news is more powerful than bad news. Despite they are not using the property price to do their research, property and stocks are the similar products. Therefore, it can help me to do that research. Berry & Dalton (2004) suggest that the policy interventions are the negative news to the housing market, leading to the decrease in property prices. Lee (2009) suggests that housing prices are asymmetric in good and bad news, bad news has stronger impact than good news. He also found out that the lending rate has little impact on the housing price.

Robert Shiller and Eugene Fama's theory: can the trend of asset price be predicted?

The 2013 Nobel Prize in Economic Sciences was awarded to Eugene Fama, Lars Peter Hansen and Robert Shiller for their empirical analysis of asset prices. Fama and Shiller are considered direct opposites in their views of whether asset prices are predictable. Fama is known as the father of the "efficient markets hypothesis" and the origin of this idea goes back to his influential paper in 1970. Fama (1970) divided work on market efficiency into three categories in an attempt to answer three different questions: (1) How well do past returns predict future returns? (weak-form tests), (2) How quickly do security prices reflect public information announcements? (semi-strong-form tests), and (3) Do any investors have private information that is not

fully reflected in the market prices? (strong-form tests). Fama further changed the three categories in 1991. The first category, weak-form tests was revised to cover the more general area of tests for return predictability to forecast returns with variables like dividend yields and interest rates. For the second and third categories, he changed the title to “event studies” and “tests for private information” respectively. “Event studies” is the study of the speed of adjustment of prices to firm-specific information like dividend changes, changes in capital structure, and corporate-control transactions and he argued that the efficiency research put forth the challenge that private information is rare. If weak-form is valid, technical analysis becomes ineffective. If semi-strong form is in effect, one cannot earn superior returns based on publicly available information. In other words, one cannot “beat the market” based on traditional security analysis and technical analysis. Under the strong-form of the hypothesis, asset prices even swiftly reflect “private” or “insider” information. Fama’s pioneer work on the market efficiency has given rise of passive investment strategies like index fund investment strategies (Fama 1991). Following a vast amount of research conducted by Fama, economists now agree that historical prices are of little use in predicting the asset prices in the short run. However the controversy rests on the predictability of the asset prices in the long run.

Investigating the longer-term predictability, Shiller (1981) argued that stock prices move much more than can be explained by dividend streams, which is contrary to the basic theory that a stock’s value should equal the expected value of future dividends. Then he continued to look into the explanation of the fact that stock prices appear to overreact to dividends, in which prices are exceptionally high when dividends are high relative to recent experience and are exceptionally low when dividends are low relative to recent experience. In the paper “Stock Prices and Social Dynamics”, Shiller contended that mass psychology could be an important cause of movements in the stock prices. By using the literature on social psychology, sociology, and marketing, he studied the history of the U.S. stock market in the postwar period and found that various social movements could have major effects on the stock prices. He challenged the efficient markets hypothesis that qualitative evidence about the investors would be convincing to explain the excessive volatility of stock prices (Shiller 1984). Campbell & Shiller (2001) showed that the dividend-price and price-smoothed-earning ratios have a special significance to forecast stock prices and were extraordinarily bearish. They suggested that stock prices are substantially driven by mean reversion and observers must face the fact that something extremely unusual has occurred.

Having drawn the line between “efficient markets hypothesis” and the “behavioral

finance”, which refers to the collaboration between finance and other social sciences, Shiller (2003) claimed that *“we have to distance ourselves from the presumption that financial markets always work well and that price changes always reflect genuine information. Evidence from behavioral finance helps us to understand, for example, that the recent worldwide stock market boom, and then crash after 2000 (“Internet” or “Dot Com” bubble),...The challenge for economists is to make this reality a better part of their models.”*

Regarding the home prices, based on the evidence of the divergence between real interest rates and real rental-price ratios, he argued that there was the possibility of an irrational overpricing at that time and could pose the risk of a huge decrease in home prices in coming years (Shiller 2006). He believed that, as already discussed in his book “Irrational Exuberance” published in 2005, *“there is substantial evidence that there is a strong psychological element to the current housing boom...the current home price boom is best thought of as a social epidemic: a fad of sorts”*.

Although there are bubbles in asset prices, the method to measure the turning points or ends of housing booms is still left unanswered. Shiller (2007) conducted the research on several different ends of booms-the end of the stock market boom of the 1990s, the end of the California real estate boom of the 1880s, the end of the Florida land boom of the 1920s, the end of the national real estate boom of the 1980s, and the recent end of the national real estate boom of the 2000s. He developed the concept of the uniqueness bias, which encourages investors to think that the situation is unique and thus has the effect in the housing market when investors believe that the place they live in is unique or unusually attractive. He stressed that the change in attitudes or changing psychology must have had an impact on home prices and the ends of housing boom might have multiple causes. Although the change in attitudes cannot be measured accurately, media and journalists’ impressions could provide evidence to support the argument. He concluded that *“... a rising sense of enthusiasm and excitements, followed by a sense of betrayal and embarrassment at having fallen for the boom and understanding the supply response to the boom, played a significant, if unquantifiable, role in the booms and their subsequent break”*.

The fact that the Nobel Prize was awarded to Fama and Shiller seems to resolve the contradictory ideas of the predictability of asset prices during the past decades. However, the controversy will still go on as reflected by the recent interview of Fama by “The New Yorker” on October 14, 2013:

Eugene Fama:... I don't know what a credit bubble means. I don't even know what a bubble means. These words have become popular. I don't think they have any meaning.

John Cassidy: I guess most people would define a bubble as an extended period during which asset prices depart quite significantly from economic fundamentals.

Eugene Fama: ... It's easy to say prices went down, it must have been a bubble, after the fact. I think most bubbles are twenty-twenty hindsight. Now after the fact you always find people who said before the fact that prices are too high. People are always saying that prices are too high. When they turn out to be right, we anoint them. When they turn out to be wrong, we ignore them. They are typically right and wrong about half the time.

John Cassidy: Are you saying that bubbles can't exist?

Eugene Fama: They have to be predictable phenomena. I don't think any of this was particularly predictable.

John Cassidy: But what is driving that volatility (in financial prices)?

John Cassidy: And all that is consistent with market efficiency?

Eugene Fama: Yes. It is exactly how you would expect the market to work.

John Cassidy: There were some people out there saying this was an unsustainable bubble (in 2007)...

Eugene Fama: Right. For example, (Robert) Shiller was saying that since 1996.

John Cassidy: Yes, but he also said in 2004 and 2005 that this was a housing bubble.

Eugene Fama: ...I didn't renew my subscription to *The Economist* because they use the word bubble three times on every page. Any time prices went up and down—I guess that is what they call a bubble. People have become entirely sloppy.

Research method

We use Wisers Information portal to search for housing news from Oriental Daily and Apple Daily with keywords “housing prices” (in Chinese) (樓價). The news are classified according to positive, negative and neutral. The index that we adopt is the Centa-City Leading Index (CCL). CCL is a weekly index based on the current contract prices in Centaline Property Agency Limited transactions that monitors the up-to-date property price variations (Centa Data 2013) . It is based on preliminary

contract price data which can indicate the recent property price movements. Since Centaline Property Agency Limited has more than 20% of the property agent market share, the Centaline transaction data are able to reflect the property market situation at that moment. In short, CCL is

= Total market value of the constituent estates in a week / total market value of the constituent estates in the previous week x CCL for the previous week

Besides, we have also collect money supply data (M1), interest rate, population, unemployment rate and GDP per capita in our present study. Details of the macroeconomic data are shown in the following Table.

	M1	Interest rate (HK)	Population ('000)	unemployment rate	GDP per capita in chain dollar	Writers are celebrity
20036	277140.93	1.1875	6 764.2	8.4	193867	17
20037	281,982	1.28	6 764.2	8.4	186,704	56
20038	285287.6	1.3438	6 764.2	8.2	186704	106
20039	299,019	1.03	6 764.2	8.2	193867	100
200310	347044.5	1.2188	6 764.2	8	193867	17
20081	465464.9	2.225	6 963.9	3.3	254772	172
20082	461679.3	2.1569	6 963.9	3.3	254772	200
20083	457591.5	1.875	6 963.9	3.3	254772	199
20084	449981.5	2.485	6 963.9	3.3	245406	151
20131	944704.5	0.849918	7 219.7	3.5	281355	29
20132	952427.2	0.845461	7 219.7	3.5	281355	98
20133	945074.2	0.846893	7 219.7	3.5	281355	73
20134	948375.3	0.849249	7 219.7	3.5	281355	81

Table 1 Summary for the data used in the Hedonic Pricing Model (Census and Statistics Department 2014; Hong Kong Monetary Authority 2014).