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Wealth effect and investor sentiment

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ABSTRACT

This paper investigated the relationship between the U.S. stock and housing markets as well as their influence on the wealth effect of consumption and found that the stock market sentiment index can explain changes in the wealth effect. The empirical results indicate that these two markets exert a wealth effect on consumption. The estimation results of the Markov-switching model indicate two states: a state in which the stock market influences its coexistence with the housing market and a state in which the housing and stock markets are unrelated. Public optimism regarding stock market investments affects the probability of transitioning between these states.

1. Introduction

The wealth effect can be used to explain the relationship between the housing and stock markets and consumption. However, past studies have indicated that numerous factors may influence the wealth effect. In the present study, we addressed this crucial problem from a new perspective. Two proxy variables for investor sentiment, the sentiment index proposed by Baker and Wurgler (2006) (the BW sentiment index) and consumer sentiment index developed by the University of Michigan (Michigan Consumer Sentiment Index), were selected to investigate whether investor sentiment influences the wealth effect.

Since Ando and Modigliani (1963) proposed the life cycle hypothesis, numerous scholars have investigated whether stock market wealth effect exists in public consumption (Poterba, 2000; Starr-McCluer, 2002). Extant studies have also verified the effect of housing wealth on consumption (Skinner, 1999; Yoshikawa & Ohtaka, 1989), particularly when the housing markets experience significant increases. In addition to the comparison of the effect of the stock wealth with the housing wealth on consumption, previous studies have investigated the wealth effect between the stock and housing markets.

Additionally, studies referencing the urban social science literature (Harvey, 1982, 1985, 1989) have suggested that the capital switching effect may influence the relationship between the housing and stock markets. For example, Lizieri and Satchell (1997) held that higher returns in the housing market attract capital investment in the construction industry, reducing the capital in other industries or companies and creating an inverse relationship between the housing and stock markets. Therefore, extant empirical studies on the wealth effect have reported diverse results, this phenomenon could be caused by

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the different effects in the relationships between the stock and housing markets. Using the linear model to estimate the relationship between stock and housing markets to verify the existence of the wealth effect may be inadequate.

The goal of this paper is to observe the relationship between the stock and housing markets as well as the influence of the two markets on consumption. In this study, we used the Standard & Poor's (S&P)/Case–Shiller U.S. National Home Price Index, the S&P 500 stock index, and personal consumption expenditures (PCEs) as proxy variables for the performance of the U.S. housing and stock markets and consumer spending.

In addition to the wealth effect, this study also considers other potential factors that cause the varying correlations between the stock and housing markets, including the credit-price effect, the capital switching effect and investor sentiment. In contrast to previous studies, the current study estimates the dynamic relationship between stock and housing markets and the effects that the stock and housing markets bring on the consumption to explore comprehensively the wealth effect. Previous studies have addressed only the potential effects between the stock and housing markets, such as the wealth, credit-price, and capital switching effects. In particular, the largest number of studies have verified the wealth effect. However, few studies have addressed changes in the effects within these two markets according to varying investor sentiment.

In fact, a lot of previous studies indicate that investor sentiment is a predictor of stock returns and can serve as a price-discovery indicator (Baker & Wurgler, 2006, 2007; Brown & Cliff, 2005). Furthermore, several studies assert that optimistic and pessimistic investor sentiments exert distinct effects on stock returns. For example, Stambaugh, Yu, and Yuan (2012) proposed that high sentiment produces overpricing more so than low sentiment produces underpricing. Ding, Charoenwong, and Seetoh (2004) and Zhang and Semmler (2009) also verify that optimistic sentiment is more significantly correlated with stock returns compared with pessimistic sentiment. Investor sentiment influences the stock trading of the public and may affect whether stock market capital and wealth are converted into other assets or consumption. Specifically, investor sentiment has an asymmetric influence on stock returns. This indicates that when traders are optimistic or pessimistic toward the stock market, their behavior is asymmetric and may trigger asymmetric changes in the wealth effect.

Therefore, in the present study, we first observed the effects between the markets as well as whether the wealth effect is asymmetric when the public is optimistic or pessimistic. Next, the Markov-switching model, which can objectively observe state changes, was used to investigate the effects of different states between the U.S. stock and housing markets and consumption to test whether the stock market sentiment index can explain changes in the wealth effect.

The remainder of this paper is presented as follows: Section 2 reviews the literature, Section 3 describes the empirical models, and Section 4 illustrates the data and reports the estimation results. Section 5 summarizes the main conclusions of this paper.

2. Literature review

Empirical studies have explored the relationship between stock and housing markets to verify whether these markets are segmented (Liu, Hartzell, Greig, & Grissom, 1990; Ong, 1995), and scholars have also employed the wealth effect to integrate the correlation between the stock and housing markets. Based on the Ando and Modigliani (1963) life cycle hypothesis, unanticipated changes in wealth should lead to higher levels of consumption. Stock market increases bring unexpected stock wealth to the public, thereby increasing public consumption of goods and assets, including property. Therefore, the wealth effect can explain the relationship that exists between the stock and other markets.

Extant studies have employed cointegration (Okunev & Wilson, 1997; Tsai, Lee, & Chiang, 2012), vector autoregressive (VAR) model (Sutton, 2002; Kakes & Van Den End, 2004), and causal relationships (Green, 2002; Kapopoulos & Siokis, 2005) to verify the wealth effect between the stock and housing markets. The cointegration tests can be used to examine the long-term equilibrium relationship among variables. From a long-term perspective, the cointegration relationship between the stock and housing markets indicates the existence of the wealth effect. The VAR model and the causal relationship tests have been used to examine the short-term correlations among variables. From a short-term perspective, the causal relationship between the stock and housing markets indicates the existence of the wealth effect.

Scholars have employed various samples and deregulated the limitations of research models to explore further the wealth effect between the stock and housing markets. A number of studies have investigated the nonlinear wealth effect (Okunev & Wilson, 1997; Okunev, Wilson, & Zurbruegg, 2002; Tsai et al., 2012), and empirical evidence has proven that the wealth effect may exist because of the structural changes in the economic environment or asymmetric relevance between the stock and housing markets.

In addition to the wealth effect, Kapopoulos and Siokis (2005) maintained that housing markets can affect the stock markets, although this effect is likely to be in terms of the credit-price effect. The credit-price effect refers to the conditions where house price increases result in higher real-estate mortgages for the public and the enterprises. However, the additional borrowed capital can be invested in the stock markets and can increase the corporate value, leading to increases in the stock prices. Chen (2001) used data from Taiwan between the third quarter of 1973 and first quarter of 1992 to verify the credit-price effect between the stock and housing markets.

Additionally, multiple studies have held that capital swings between housing and stock investments. When an asset's expected returns increase or its risk decreases, capital is shifted and invested in that asset, creating the capital switching