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Introduction to Economic Theory of Bubbles*

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Asset markets around the world are very volatile. Two most important asset markets are the stock market and the housing market. Figure 1 presents the US and Japanese real stock market indices (S&P 500 and Nikkei 225).[1] This figure shows that the US stock market experienced a persistent boom from 1990 through 2000 and price indices more than doubled. The market went down by about a half from the peak of December 1999 to early 2003. It then came back reaching a peak in January 2007, followed by a crash to the bottom in March 2009. Between this short period, the stock market lost more than 50%. Since then the stock market gradually recovered. The Japan's stock market experienced a persistent boom until December 1989, rose by about 500% from early 1970. After then the stock market crashed and never came back with prices below a half of the peak.

Figure 2 shows the US and Japanese real housing prices, price-income ratios, and price-rent ratios.[2] This figure shows that the US housing market experienced a persistent boom from early

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[1]The monthly real S&P 500 stock price index is downloaded from Robert Shiller's website: http://www.econ.yale.edu/ shiller/data.htm. The monthly Nikkei 225 index is download from Bloomberg. The real indices are deflated by the CPI data download from the OECD Main Economic Indicator Database.

[2]The US nominal house price index is the all-transaction index from Federal Housing Finance Agency. The Japan's nominal house price index is the nationwide urban land price index from Japan Real Estate Institute. The real house price index is the nominal house price index deflated by the private consumption deflator. The average real index in 2000 is normalized to 100. The price-income ratio is the ratio of nominal house price index to the nominal per capita disposable income. The sample average is normalized to 100. The price-rental ratio is the ratio of the nominal house price index to the rent component of the consumer price index. The sample average is normalized to 100. All data are downloaded from http://www.econ.queensu.ca/files/other/House_Price_indices%20(OECD).xls. All series are quarterly and seasonally adjusted.