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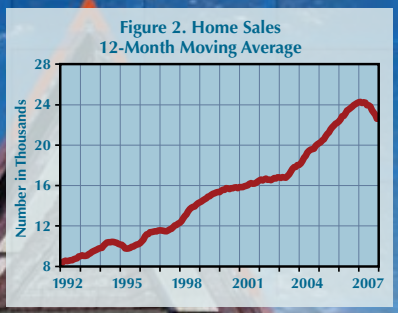
Good Times Bad Times

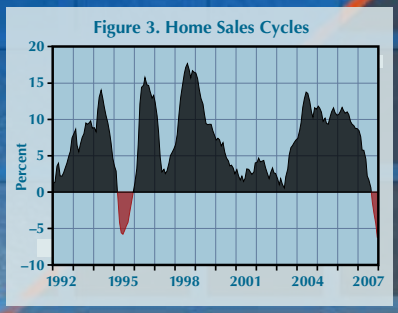
Understanding Real Estate Cycles

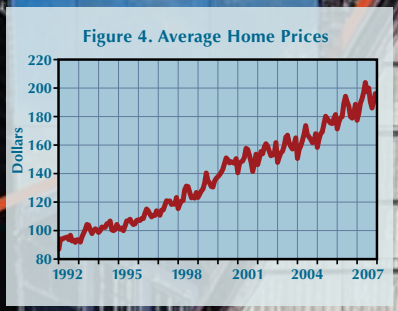
By Ali Anari

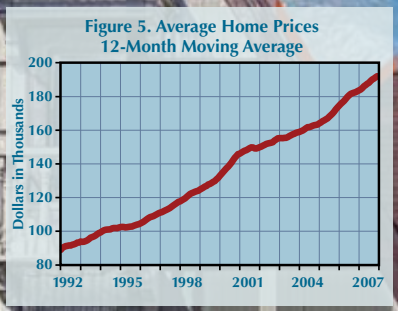
Good times follow bad times. This idea dates back to biblical days, when Joseph interpreted pharoah's dream to mean that seven years of plenty would be followed by seven years of famine. Intrigued by the feast-famine concept, some economists coined the term "the Joseph Cycle" to refer to that type of cyclical pattern.

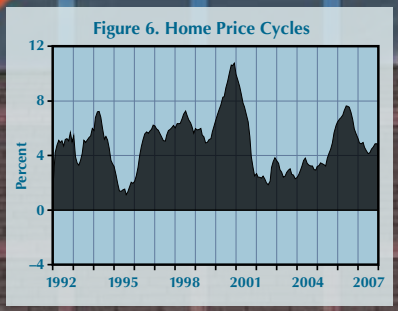
Texas Housing











But modern business cycles in the United States — that is, business cycles after the Second World War — are unlike the Joseph Cycle. Instead, they are characterized by long periods of expansion followed by short contraction periods. According to the business cycle dating committee of the National Bureau of Economic Research, the average postwar economic expansion period is 57 months while the average contraction period is ten months.

The transformation of the U.S. economy from the "great depression" before World War II to the postwar "great moderation" is mainly attributable to the growing U.S. economy, which includes a large portfolio of economic activities. Slow growth rates and downturns in some sectors of the economy normally are offset by higher growth rates of output in the rest of the economy.

Business Cycle Defined

The business cycle consists of recurring wave-like fluctuations in economic activity. All economic time series normally exhibit fluctuations, but a cycle occurs when the time series shows several periods of persistent increase (or decrease) followed by several periods of persistent decrease (or increase). An *expansion phase* is several periods of higher-than-average economic growth rates culminating in a *peak* growth rate. A *contraction phase* consists of multiple intervals of lower or negative growth rates ending in a *trough* (the point at which recovery begins).

Wave-like fluctuations in both levels and growth rates can occur in economic time series. However, most discussions and issues related to business cycles focus on the growth rates of sales and prices of goods and services within a time series rather than the levels of these variables. A type of goods or services may have high sales and price levels, yet the growth rate of sales and prices may slow or even become negative for several periods.

Economists and statisticians define an economic time series, such as home sales, as consisting of four components: a seasonal wave, secular trend, cyclical fluctuation and irregular components.

Seasonal variations may exist when economic time series consist of daily, weekly, monthly or quarterly data. For example, Texas home sales are seasonal, with peak sales in June and the trough in January (Figure 1).

A secular trend is the general tendency in a time series to increase or decrease over a long period as a result of population growth, technology, preferences and other factors. For instance, the level of gross domestic product (GDP) grows over time although the growth rate may be negative in some periods.

Cyclical fluctuations are the ups and downs that stray from long-term secular trends. These fluctuations are caused by changes in economic policy, technology and preferences.

Irregular or random shocks are unpredictable components of economic variables. Natural disasters such as tsunamis and man-made catastrophes such as 9/11 are examples of random shocks, as is the government's $600 to $1,200 tax rebates to boost consumer spending. These irregular occurrences can alter the expected move in a cycle.

Business cycle research is mainly motivated by the enormous costs of economic slowdowns and recessions, which result in lost output, lost jobs, lost homes and large welfare losses. Governments study the business cycle in an attempt to minimize the adverse impacts of recessions and to fine-tune the economy with monetary and fiscal policies. Businesses and investors can better plan production, capital formation and investment activities by understanding whether the market is in an expansion phase or contraction phase.

Causes Have Many Explanations

Different schools of economics offer different explanations for business cycles. According to Keynesian economists,

fluctuations in demand for goods and services are the main cause of business cycles. Monetary economists consider fluctuations in money supply and interest rates to be the main causes.

Real business cycle theorists believe that business cycles are generated by random shocks to the economic system. According to Henry George, a nineteenth century U.S. economist, real estate variables (especially land speculation) are the main causes of economic downturns and boom-bust cycles. In all, there are more than 30 theories or explanations of the business cycle.

For pragmatic market participants and business practitioners, the most important question regarding business cycles is "What stage of the business cycle is my market in right now?"

Texas Residential Real Estate Cycles

Real estate business cycles are about cyclical fluctuations of quantities and prices of construction, sales, permits and inventories of real estate properties. The Real Estate Center at Texas A&M University has an ongoing research program monitoring several Texas real estate business cycles. This research yielded the following information about Texas residential real estate cycles.

Home Sales Cycles

Texas home sales volume is highly seasonal as the monthly time series in Figure 1 shows. This seasonality can mask other trends.

Economists and statisticians have developed techniques for discovering trends from raw time-series data. One simple technique is to estimate the moving averages of the time series — that is, average monthly sales over the past 12 months. The 12-month moving average of monthly home sales in Texas (Figure 2) clearly shows three distinct periods since 1992: a slow increase in homes sold, from an average of 15,820 residential units in January 2001 to 16,778 units in April 2003, followed by a period of rapid growth to 24,281 units in February 2007, and finally a cooling off period that began in March 2007 and ran through December 2007, during which homes sold fell to 22,620 units.

The next step in uncovering business cycles from the home sales data is computing the annual growth rates of the monthly moving averages of homes sold; that is, the percentage change in the monthly moving averages from January to January and so forth (Figure 3).

Several things can be gleaned from the figure. First, growth patterns display cycles — periods of higher growth rates followed by periods of lower growth rates and even negative growth. Second, no two cycles are the same. Each one is unique in duration and amplitude.

Third, Figure 3 supports the assertion that expansion phases are long while contraction phases are short. Finally, the state's residential market is currently experiencing negative home sales growth rates. From September 2007 to December 2007, the average number of homes sold fell from –1.5 percent to –6.4 percent.

Home Price Cycles

Average prices of homes sold in Texas also display seasonal variations with peak prices in June and a price trough in January (Figure 4). The 12-month moving average price of homes sold shows steady price growth rates during the last two decades (Figure 5). The state's residential market has experienced variable home price appreciation since 1992, but no price declines.

The seasonally adjusted average price of homes sold rose from 4.1 percent in July 2007 to 4.8 percent in December 2007 despite the declining growth rates of homes sold over the same period (Figure 6).

The business cycle analysis of home sales and home prices reveals that Texas homeowners may continue to enjoy moderate home price appreciation. At the same time, it may be appropriate for Texas home builders to slow down new home construction projects.

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THE TAKEAWAY

Business cycles are recurring wave-like fluctuations in economic activity. A study of Texas real estate business cycles confirms that these cycles are characterized by long expansion periods followed by short contraction periods. However, no two cycles are the same in duration and amplitude.

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