Groundhog Day: Economic Forecasting

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This article is the tenth in a year-long series about economics and holidays.

Every February 2nd, reporters gather in Punxatawney, Pennsylvania to see whether the groundhog emerges from his hole and sees his shadow. A yes means six more weeks of winter; no shadow means an earlier spring. The groundhog is an amusing, if somewhat inaccurate, medium-term weather forecaster. Most of the forecasts we rely on for making our daily and weekly plans are short term (up to five days) predictions of rain, wind, sun, clouds, and occasionally, hurricanes or tornadoes.

Punxatawney Phil and his chief competitor, the Old Farmers' Almanac, make longer term forecasts as well—in the case of the Almanac, for the entire year. The patterns of El Nino and La Nina in the Pacific Ocean offer some clues as to these longer term weather forecasts.   But only professional meteorologists and atmospheric physicists attempt the daunting task of forecasting years ahead, not merely weather but also climate and climate change.

Economists have a similar challenge in making short-term, medium term, and long-term forecasts. There is a demand for short-term forecasts of GDP, retail sales, stock market indices, interest rates that parallels our interest in daily weather forecasts. Proifit is to be made in correctly anticipating changes in key variables that affect stock prices, credit availability, the housing market, auto sales and other important measures of economic activity. That kind of short-term forecasting has an entire industry of its own.

For the medium-term (maybe six months to two years ahead), economists have developed elaborate computer models that predict the behavior of output, employment, prices and interest rates based on past experience. A collection of leading indicators, including building permits, changes in the money supply, and xx other variables, has a history of moving about six months ahead of changes in GDP is a widely used and simple forecasting tool. An uptick or downturn in this index suggests a similar uptick or downturn in GDP six months or so into the future.

While many economists either follow or create short to medium term forecasts, relatively few economists make longer term forecasts that are equivalent to the atmospheric scientists' climate change forecasts. Our economy has been through many dramatic changes in the last century, even in the last few decades. While there have always been voices from the margins who predicted these dramatic changes, the mainstream of the economics profession seems to think that more distant tomorrows will be pretty much like today. In fact, that appears to be the way most of us, economists or not, do our personal forecasting—tomorrow will be much like today, only partly modified by recent and current events such as higher unemployment, lower interest rates, and sinking home prices. That gradual adjustment of expectations is called adaptive expectations.

The alternative model, known as rational expectations, is based on a more fully informed, rational, calculating individual who continuously updates his or her expectations based on new information and is, as a result, always ahead of the curve. This highly economic being is never taken by surprise and is always ahead of the curve, whether it is a financial market crisis, a housing bubble, the rise or fall in interest rates or the value of the dollar, or other important economic measures. But even the rational being has a somewhat limited time horizon.

The Nobel Prize in Economics has been awarded to scholars on both sides of the question. Economist Robert Lucas, one of the best-known exponents of rational expectations in macroeconomics, won the prize in 1995. But Herbert Simon, best known for his theory of bounded rationality, received the prize much earlier, in 1978. Simon believed that real people acquire and process only limited information in many aspects of their economic lives, which makes them somewhat less than the amazing calculating machine of rational expectations. More recently, in 2002, one-half the Nobel Prize in economics was actually awarded to a psychologist, Daniel Kahneman, for his work in determining how people make decisions that are not consistent with the rational economic actor model.

The rational expectations model has considerable value, particularly for specific models and short time periods. But actual human beings do not choose to invest large amounts of time in gathering and processing economics information. They also are influenced by such factors as risk aversion, framing (the way in which information is presented), and crowd psychology (stock prices and/or home prices can continue rising forever).

The current economic crisis was forecast by a few of those voices from the margins, but it took many people, including economists and forecasters, completely by surprise. The normal ups and downs of economic activity (the business cycle) runs in about eight year cycles, overlaid by unusual events from the oil price hike and double digit inflation of the 1970s to the stock market/dot.com bust of a decade ago to the housing market collapse over the past two years. Every time we come through a recession, it only takes a short time to assure ourselves and one another that we have learned from the experience and won't repeat it, then resume our normal economic lives until the next one. As Santayana observed, "Those who cannot remember the past are condemned to repeat it." If there is a lesson about forecasting in the current economic doldrums, it is one of caution. Punxatawney Phil has seen his shadow, and not only is the winter not over, it will come again next year.