Is a Recession Ahead? The Models Say Yes, but the Mind Says No

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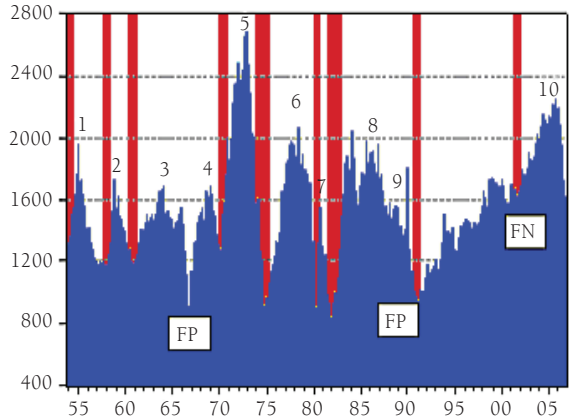
One way to determine if a recession is coming soon is to build a model estimated from the historical data. If you do that, you may not like the answer. Many models say that a recession in the next 12 months is a virtual certainty.

For example, take a look at the data on building permits for private housing illustrated below, with the U.S. recessions shaded.

Ten mountains of homes have been built since 1954. The most recent permit peak of 2.2 million homes occurred about a year ago in August 2005. We are now skiing down a very steep slope, falling to 1.5 million units in October 2006. That kind of decline preceded seven of the last eight recessions, 2001 being the exception, which was a "business downturn" not a "consumer downturn." There were only two sharp declines in building permits that did not lead into a recession. In the language of statistics, skiing down a mountain of permits predicts a recession well with only one false negative and two false positives. The false negative, labeled "FN" in the figure, was the 2001 recession that was not predicted because there was no decline in permits preceding it.

Declining Building Permits Predict Recessions

Recessions Shaded



What explains the false positives? One decline in permits (#3) started in January 1966: that time, weakness in housing was offset by spending by the Department of Defense for the Vietnam War. There was also a relatively mild housing problem (#8) that started in October 1985 in the middle of the Reagan expansion but it did not lead into a recession. The life of that expansion was extended by a decline in oil prices, good export growth because of a depreciated value of the dollar and a monetary stimulus as well. This picture offers an unpleasant choice:

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a recession soon, or a huge ramp-up in spending on the war on terror, or some major good fortune.

Any model built on housing starts is sure to say a recession is coming soon. But, the curmudgeon jokes: "Economists are like artists. They tend to fall in love with their models." With considerably less pleasure, I would add.

Better to treat the model as a helpful companion, not an all-wise Delphic love-object. After all, accurate forecasting comes first from understanding that some things repeat and others do not, and second from recognizing that the line between the two is constantly changing. Models don't have access to that bit of wisdom, since they are necessarily built on the assumption that everything in them only repeats. Electronic computers mindlessly project the past into the future. The organic computer that sits on your shoulders doesn't suffer from that psychological rigidity. Your brain is capable of a broad range of free-spirited thinking ranging from the insightful to the merely wishful.

Thus, when your mind tells you that your model is going astray, listen carefully. Eliminate the wishful thinking and all that remains are the insights.

My view, announced in December 2005, is that this time will be different. This time the problems in housing will stay in housing. So far, I am feeling very smug. But this keeps me up at night.

In this column, first the models, and then the mind. The models say that a recession is coming soon. The mind says otherwise.

THE MODELS: PROBIT RECESSION ALARMS

The ten components of the Conference Board Index of Leading Indicators are natural places to begin to make a model to predict the next recession. Table 1 reports these ten components. To be evocative, I have sorted them into groups: labor market, housing market, financial markets, manufacturing order books, and man-on-the-street predictions.

That "man-on-the-street" label for the "index of consumer expectations" is intended to be derogatory since, before looking at the data, we should begin with a high state of skepticism regarding the predictive value of survey responses to questions about the future state of the economy. What do they know anyway?

I have estimated thirteen different equations that predict recessions using one of thirteen

Table 1
Components of Conference Board Index of Leading Indicators and Weight

	Leading Index	Conference Board Weights
	Labor Market	
1.	Average weekly hours, manufacturing	0.1963
2.	Average weekly initial claims for unemployment insurance	0.0255
	Housing Market	
3.	Building permits, new private housing units	0.0205
	Financial Markets	
4.	Interest rate spread, 10-year Treasury bonds less federal funds	0.3295
5.	Stock prices, 500 common stocks	0.0291
6.	Money supply, M2	0.2778
	Manufacturing Order Books	
7.	Manufacturers' new orders, consumer goods and materials	0.0587
8.	Manufacturers' new orders, non-defense capital goods	0.0149
9.	Vendor performance, slower deliveries diffusion index	0.0293
	Man-on-the-street Predictions	
10.	Index of consumer expectations	0.0185

different indicators: the ten components of the Conference Board Index, the Purchasing Managers Index, the unemployment rate and the real price of crude oil. Essentially, I ask with this analysis how the year before a recession is different from the other periods. I exclude from the analysis the data during recessions as well as the first two years of expansions. This eliminates the recessions and the recovery periods that have their own special features which are not relevant to decide if a recession is coming soon.

The best single variable for predicting recessions is the interest rate spread, followed by claims for unemployment and building permits. Consumer confidence is about in the middle of the pack, better than expected.

These various indicators provide rather different estimates of the probability of a recession in 12 months. The interest rate spread and building permits have the recession probability elevating substantially to 50 percent and 73 percent respectively. All the other indicators are suggesting that the probability is very low. Two say likely, eleven say unlikely. Does that mean that the components together suggest that a recession is unlikely?

Not really. The right way to combine the leading indicators is not just to "mush" the results, the way the Conference Board does with the statistically irrelevant weights reported in Table 1—that method ignores altogether both the relative accuracy and the major differences in timing of the components. For example, with regards to timing, an inverted yield curve in the *last six months* signals an oncoming recession, while it is a *fall* in building permits over the *last 18 months* that matters.

Instead of "mushing" the models, I consider the 1760 models involving three of these thirteen indicators in all different combinations. The model that fits the data best predicts recessions from (1) the interest rate spread, (2) building permits, and (3) the unemployment rate. According to this model, the probability of a recession in one year rose to 86 percent in January 2006 and to 100 percent in March 2006, and has been stuck at 100 percent through October 2006. According to this (imperfect) predictive probability, a recession is a virtual certainty and likely to commence in the first quarter of 2007. Many of the other 1759 models have lower probabilities of recession, but these are so inferior that a weighted forecast is essentially the same as the forecast of the best model.

THE MIND: WHY I THINK THE MODELS ARE WRONG

The models that rely on history suggest that the extreme problems in housing currently being corrected will almost surely infect the rest of the economy, but that history does not take into account two important facts:

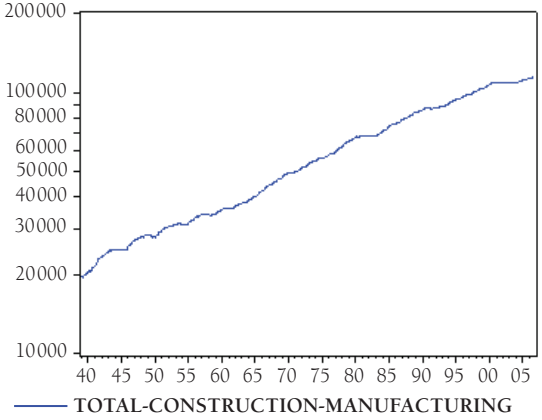
- Manufacturing is not poised to contribute much to job loss.
- Real interest rates are very low and there is no evident credit crunch, now or on the horizon.

These facts make the problem in housing less severe than it would be otherwise, and help to confine the pathology to the directly affected real estate sectors: builders, real estate brokers and real estate bankers.

You can see the manufacturing point in three figures (see next page):

- Outside of manufacturing and construction, there is hardly any job loss, as illustrated in Figure 1.

Figure 1—Payrolls Jobs



Employment in Manufacturing and Construction

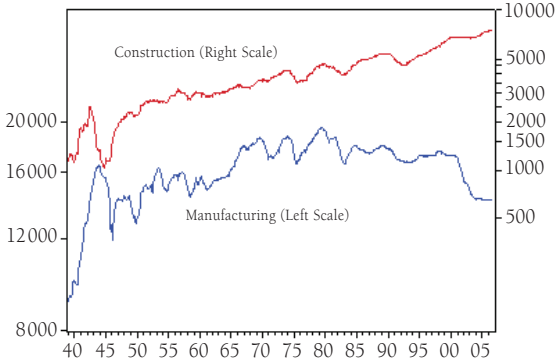


Figure 2—Detrended Employment in Manufacturing and Construction

(Manufacturing has one trend before 1983 and another after)

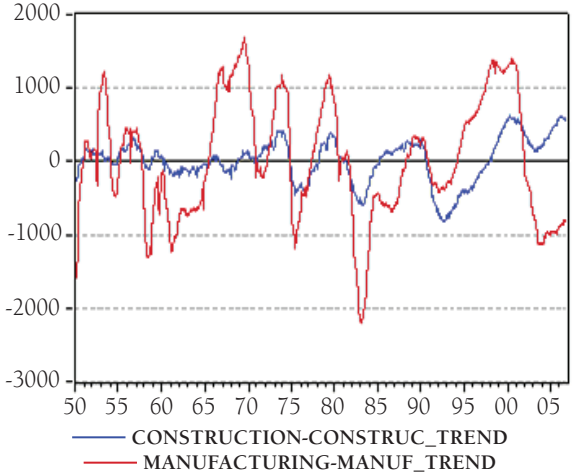
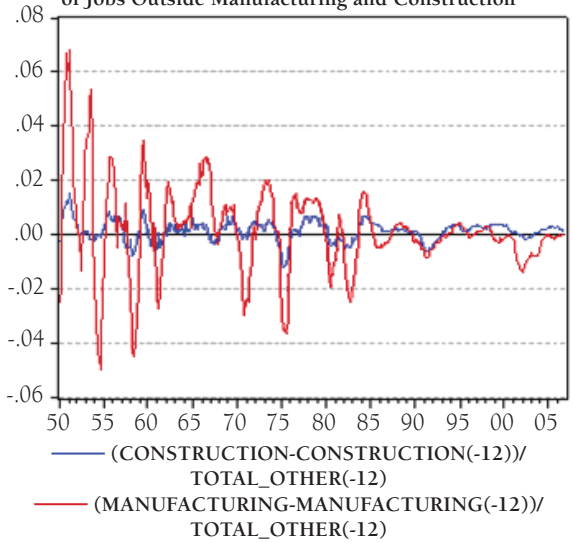


Figure 3— Contributions to Job Loss from Manufacturing and Construction

Year over Year Changes in Employment as a Percentage of Jobs Outside Manufacturing and Construction



- The employment cycles in construction and manufacturing are normally closely coordinated but they disconnected in the 2001 downturn, as shown in Figure 2. While construction is at a peak, manufacturing is at a trough, having never recovered from the last recession.
- There cannot be enough job loss in construction alone to qualify as a real recession. See Figure 3.

The bad news is that we trimmed 3 million jobs from manufacturing in the 2001 recession, but the good news is there aren't many more to lose. That makes a recession highly unlikely, even though analysis of the historical data suggests otherwise. But that analysis cannot deal with the current disconnect between the construction and manufacturing cycles, because it hasn't happened before.

CONCLUSION

The models say "recession;" the mind says "no way."

I'm going with the mind. This time the problems in housing will stay in housing. If you are a builder or a broker, it will feel like a deep depression. The rest of us will hardly notice.

Letters commenting on this piece or others may be submitted at http://www.bepress.com/cgi/submit.cgi?context=ev.

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