"PREDICTING RECESSIONS AND OTHER TURNING POINTS"

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Abstract

How successful have economists and business forecasters been in predicting recessions and other turning points? This question is of practical value for planning, strategy and other forms of future orientated decisions requiring accurate forecasts. The purpose of this paper is to examine forecasts of recessions and other turning points and evaluate their accuracy. The conclusion of this paper is similar to that reached by Makridakis (1981). Forecasters have been unsuccessful in their effort to accurately predict recessions and other turning points. The implications of such a conclusion is that forecasting users should not pursue the illusion that recessions and other turning points can be accurately predited. Instead, they should accept reality and shift their emphasis to alternative ways of dealing with recessions and other changes from established patterns and/or relationships.

In 1981 a paper was published in this journal (Makridakis, 1981) evaluating the ability of economists and business forecasters to accurately predict recessions in the economy. The conclusion reached in this paper was that "forecasters have been somewhat unsuccessful in their efforts to correctly predict the timing and depth of recessions". In addition, five general characteristics of forecasting recessions were postulated. The purpose of the present paper is to examine how well the conclusion and the five general characteristics have fared since 1981. The data, as with the 1981 paper, was collected by summarizing business publications, such as Business Week, Forbes, Fortune and specialized economic newsletters. In addition, the coverage of the paper extends to include the ability of forecasters to successfully predict turning points in general.

Predicting recessions and other turning points is of critical importance for planning and strategy. Considerable real or opportunity losses can result if the timing and/or depth of recessions are missed. Similarly, economic hardships, or even suicides can be committed as in the case when the boom in the stock markets turned into a major decline on 19th October 1987. A major contribution of the field of forecasting has been the empirical evaluation of predictions made in the past, which has allowed us to find out the size of forecasting errors, the extent of future uncertainty, and the type of events/factors that can and cannot be predicted. At present it makes no sense to ignore such empirical evidence (Makridakis, 1988).

This paper is organized as follows: first a brief review of the literature dealing with forecasting accuracy, with an emphasis on evidence dealing with the prediction of recessions and other turning points, is presented. Section 2 examines two additional recessions (the 1980 and the 1981/82 ones) and discusses predictions about the next recession that is due to arrive.

Section 3 looks at the prediction of turning points other than recessions and the ability of forecasters, forecasting methods, and/or forecasting services to successfully predict them. Section 4 proposes ways of dealing with turning points if it is accepted that recessions, booms and other changes in patterns and/or relationships cannot be accurately predicted. Finally, there is a concluding section.

EMPIRICAL EVIDENCE

The predictive accuracy of forecasts made in the past has been evaluated by many empirical studies (Makridakis, 1986). Empirical evidence indicates that people are not necessarily more accurate than statistical models while predicting the future. Personal considerations, political motivations, optimism, inconsistency, illusory correlations and a host of other biases (Hogarth and Makridakis, 1981; Lawrence and Makridakis, 1988; Armstrong, 1985; Moriarty, 1985; Tyebjee, 1987) influence peoples' forecasts in a way that is detrimental to accuracy. Moreover, when forecasting models are being evaluated size or sophistication do not affect forecasting accuracy. A summary of the major empirical findings dealing with predictions relating to recessions and other turning points is as follows:

(a) forecasting errors are worse when turning points (e.g.,recessions) occur (McNees, 1979), (b) no single forecaster or model out-performed the others in a consistent way (Zarnowitz, 1984), (c) forecasters have tended to show a bias towards optimism (Ahlers and Lakonishok, 1983), (d) the timing of turning points is extremely hard to predict (Makridakis, 1988), and (e) the extents of increase or decline following a turning point cannot be accurately predicted if they are different from the average of past similar increases or declines (Armstrong, 1985).

THE 1980, THE 1981/2, AND THE "1988" RECESSIONS

The 1980 recession started in the first quarter of that year and caught most forecasters and planners by surprise. A moderate recession was predicted as far back as 1978. However, it did not materialize during 1978 or 1979. The recession finally arrived in early 1980. However, it was not predicted even during the latter part of 1979, by the majority of forecasters. At the end of 1979 and the beginning of 1980, finally forecasters started realizing that a recession was about to, or had already, started. At that time, the consensus forecast was predicting a 3% real decline in GNP. Such a decline seriously underestimated the 9% drop in the real GNP. In addition, economists and planners were also surprised by the strength of the recovery which persisted despite the fact that the majority of predictions were for a continued decline.

The 1981/82 recession was unique in that it started only a year and a half after the 1980 recession. (This made the 1980/81 business cycle <u>the shortest</u> of all post-war ones - lasting only eighteen months). Predictions of its arrival were late. Even during the 3rd quarter of 1981 there was a divergence of opinion whether or not a recession had already started. At the time it was not obvious if the GNP was going to grow during the 4th quarter of 1981 or if it was about to decline. (In hindsight when the historical data of GNP was analyzed, the National Bureau of Economic Research put the start of the 1981/82 recession in the 3rd quarter of 1981). The situation of the 1981/82 recession became similar to that of 1974/75. Economists and forecasters were not certain that a recession had started even during the quarter of the official start of the recession (determined afterwards).

The length of the 1981/82 recession was longer than the average and was not correctly predicted as such. Instead, the end of the recession, and the start of recovery, was estimated to come much earlier. Once the recovery got under way it was one of the strongest post-war ones and was seriously underestimated by forecasters. Once again the forecasters missed the actual growth in real GNP because it was different (bigger) than the average of the past recoveries.

The average post-war business cycle is about seventeen quarters. This means that, at present (January 1988) a recession could start at any time since 25 quarters have elapsed between the 3rd quarter of 1981 and the end of 1987. So far this makes the current expansion the third longest in the history of the USA since 1850, when records started being kept. When will the next recession start? How long will it last? How much will GNP decline? These are important questions for decision and policy makers. Unfortunately, however, no answers can be given with any degree of known certainty.

Predictions putting the start of a new recession at the end of 1985 were made as far back as the middle of 1985. As data about GNP in the third quarter of 1985 showed a healthy growth the recession was, however, pushed forwards and later, the forecasts that a recession might come were abandoned altogether. At the time this paper was written (January 1988) there was a wide divergence of opinions over whether or not and when a recession might start. It is interesting to note that before October 19th, 1987, the great majority of economists and business forecasters were predicting a continuation of growth for the whole of 1988. However, after the stock market crash of October 19th 1987, opinions started to differ substantially. Thus, in one single day the forecasts **went from** "no recession" to "everything is possible" (Business Week, 1987, pp. 24-26). This divergence of opinion has prevailed since October 20, 1987. A Los Angeles Times Service report published on December 18, 1987 quotes Larry J. Kimbell, Director of UCLA's business forecasting project, as saying, "I feel like I'm living on a different planet. Other people look at the same numbers and are cheerful". The UCLA economist sees a 7.6% decline in real GNP in the first quarter of 1988, and a 2.2 decline in the second quarter, followed by 0.7% and 1.5% respective increases in the third and fourth quarters of 1988. That is, according to the UCLA forecast a strong recession has already hit the USA economy.

As the effects of the stock market crash of October 19th have turned out to be extremely hard to evaluate, the majority of economists and business forecasts predict a slowdown but not a recession for 1988, where growth for real GNP in the USA will be under 2%, unemployment around 6.0%, and inflation 4% (Fortune, 1987; Washington Post Service, 1987). However, as time passes the divergence of forecasts about the economy increases as has been the case before almost all previous post-war recessions, when uncertainty about the state of the future economy was on the increase. Excluding the UCLA forecasts, the remaining predictions range from a 6.3% increase to a 4% decline in real GNP for the first quarter of 1988, followed by a range of 7.2% increase to 4.5% decline, a 6.5% increase to a 4% decline, and a 7.2% increase to a 2% decline for the second, third and fourth quarters of 1988 respectively (see Business Week, 1987, pp. 46-48).

Fraklin et al. (1988) summarizes the feelings about the business outlook. "If you thought that last year was a tough call for forecasters, look around. This year promises to be even harder. Most of the big uncertainties of 1987 haven't gone away, and some are intensifying".

PREDICTING TURNING POINTS

In addition to recessions, forecasters need to predict several other types of turning points. These include (a) the end of a recession and the beginning of a recovery or boom (b) changes in long established trends caused by demographic, technological or legislative factors (c) changes in long held relationships caused by societal attitudes and/or fashions which can in turn, bring changes in trends, (d) changes in exchange rates, raw material and other material prices, stock market indices and similar variables which are influenced by speculative, psychological, and/or competitive factors and (e) changes due to seasonal factors. Apart from seasonality, all other changes causing turning points in established patterns and/or relationships are extremely difficult or impossible to predict (Wecker, 1979). Empirical evidence supporting such conclusions abound (Zarnowitz, 1967; Fels and Hinshaw, 1968; Wecker, 1979; McNees, 1979; Ahlers and Lakonishok, 1983; Makridakis, 1988). In effect, predicting any turning points, except seasonal ones, provides the same type of difficulties as those present when trying to predict the arrival of recessions. Moreover, the uncertainty caused by the fact that non-seasonal turning points can occur is considerable and not well understood or accepted by decision and policy makers (Makridakis et al., 1987)

DEALING WITH RECESSIONS AND OTHER TURNING POINTS REALISTICALLY

Forecasters must realize the limitations of their predictions as far as recessions and other turning points are concerned and effectively communicate such limitations to forecasting uses. Otherwise false expectations are raised which cannot be fulfilled. Forecasting users must, on the other hand, accept the limitations of forecasting. Extensive empirical evidence has shown that future uncertainty cannot be eliminated through more sophisticated models or more expensive forecasting services.

Forecasters can predict continuations of established patterns and/or relationships but can do little more than that, in particular for forecasting horizons of more than two quarters ahead (Ashley, 1988). To believe otherwise is illusory and can only result in bad surprises and undesirable consequences. Instead, alternative, realistic approaches to deal with recessions and other turning points must be contemplated.

The length of business cycles varies widely. In the USA economy, for instance, the shortest post-war cycle (1980/81) lasted only eighteen months. The longest (1961/69) lasted 107 months. The average length is 52 months (17 quarters) but there are wide deviations around this average. This makes the forecasting of the next recession, based on statistical information about past business cycles, inaccurate. Moreover, it is also possible that the next business cycle can last for more than 107 months, or can be even less than eighteen months. The length of recessions, on the other hand, varies much less (from 11 to 18 months) than that of business cycles. This means that the end of a recession and the start of a recovery can be predicted with more accuracy than the beginning of a recession. However, the depth of recessions varies considerably, which presents a big problem for decision and policy makers and a serious challenge for forecasters.

Predicting the start and depth of a recession is the most difficult aspect of forecasting because the time between the end of one recession and the beginning of the next varies considerably. Such fluctuation coupled with the uniqueness of each recession, which make its depth unequal, make quantitative models unsuitable. Moreover, it seems that judgmental forecasters do not do much better (Zarnowitz, 1984; Hogarth and Makridakis, 1982; Armstrong, 1985). Management must, therefore, accept the fact that recessions cannot be predicted accurately. The following alternative approaches must, therefore, be contemplated:

1. Monitoring the Business Cycle: the latest business cycle in the USA started in the third quarter of 1981. At present (January 1988) the expansion has lasted much longer than the average. Management must be reminded, therefore, of the possibility that a recession can start at any time. Contingency plans need, in this case, to be drawn and the search for warning signals of a slowdown (e.g., orders received, backlogs, inventory accumulations) be examined carefully once the length of the business cycle has passed that of the average. However, from a managerial perspective the most critical aspect of dealing with recessions is the readiness and flexibility to act when monitoring signals have confirmed that a recession has, or is about to, start. In reality, the biggest damage comes because management does not realize that a recession has already arrived; moreover, once such an arrival has been accepted, decisions and actions to deal with its consequences are neither well thought nor prompt. Since it is virtually certain that a recession will come (it is only a matter of when it will arrive) it makes no sense to be unprepared to face its consequences.

2. The End of a Recession: recessions last for a limited period of time (post war recessions have lasted between 11 and 18 months). This means that management must start planning for a recovery soon after a recession has started. In my experience, this is rarely the case. The effects of recession influence the attitude of managers who become over-pessimistic. The end result is plans and actions which assume a longer continuation of the downtrend than is the case. Although recessions can become depressions (as in the late 1920's and early 1930's) this is highly unlikely and cannot guide decisions and actions each time a recession has hit the economy.

3. Bank Credits: if it is accepted that recessions cannot be predicted, their negative consequences must be dealt with through alternative means. Arranging bank credits, for instance, during periods of boom when the company is in a strong financial position is preferable to waiting until a recession has hit and the firm is in liquidity squeeze.

4. Recession Fund: as with funds for bad debts, a recession fund can be built during periods of expansion to be used during periods of recessions. Since recessions and expansions are inevitable, doing so will reduce fluctuations in earnings and therefore provide much needed liquidity when a recession has hit the economy, a certain industry, and individual companies.

5. Diversification: some industries are hit more by recessions than others. Furthermore, the timing of recessions is not the same among different industries and countries. It is possible, therefore, to reduce the impact of recessions by proper diversification in several industries and/or countries.

Dealing with turning points can also benefit from effective monitoring. As with recessions, knowing the current state of affairs can allow us to figure out, as soon as possible, when a turning point has occurred, or is about to do so. However, turning point forecasting is further complicated by the fact that some changes are temporary, while others are permanent. This complicates planning and other forms of future oriented decision making, which require specific decisions involving the continuation or not of established trends. In such cases, specific decisions must be made to ensure that a turning point will not be short-lived.

Future uncertainty necessitates organizational flexibilty and financial strength in order to deal with turning points due to economic (e.g., recessions), or other factors such as changes in trends. This is true particularly with firms in cyclical industries, in fashion, high-tech, when high competition prevails, and for new products or services. In such cases management must be aware of the possibility that substantial changes can take place modifying established patterns and/or relationships. Obviously, the profitability, or even survival of firms would depend upon their ability to cope with such changes. Although forecasting can help, there is a high degree of uncertainty involved as it is not possible (at least with quantitative methods) to predict in advance, non-seasonal turning points. It is necessary, therefore, to be realistic and accept such a fact and at the same time be ready to deal with the consequences of turning points in established trends and/or relationships.

CONCLUSION

This paper has updated a 1981 paper, published in this journal, which examined the ability of forecasters to predict recessions. Furthermore, it expanded its coverage to include the prediction of turning points in general. It was found that the conclusions of the 1981 paper held true for the 1980, the 1981/82, and the forthcoming recession. It is suggested, therefore, that it is illusory to pretend that recessions or other turning points (except seasonal ones) can be predicted. The inability to forecast recessions and other turning points must, therefore, be accepted and concrete steps taken to deal with them in practice. Otherwise, unwanted results and bad surprises can take place. As Ashley (1988) states, "individual forecasters have a responsibility to ensure that their forecasts are sufficiently accurate to have some value for potential users even at the maximum horizon to which they forecast". This is not done at present. Forecasters make predictions going two or three years into the future while pretending that they have some mystical way of knowing what is to happen, while all evidence shows this not to be the case. It seems that if forecasters cannot discipline themselves, government might have to legislate to protect the users from misleading predictions whose main purpose is to benefit the maker and not the user of forecasts. As fortune telling is illegal in several countries/states so should be forecasts that are not based on accepted principles that have been tested and found to work empirically.

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