Chapter 13

How to Survive and Thrive in Forecasting

I made a great deal of money in the late 1940s on the bull side, ignoring Satchel Paige's advice to Lot's wife, "Never look back." Rather I would advocate Samuelson's Law: "Always look back. You may learn something from your residuals. Usually one's forecasts are not so good as one remembers them; the difference may be instructive." The dictum "If you must forecast, forecast often," is neither a joke nor a confession of impotence. It is a recognition of the primacy of brute fact over pretty theory. That part of the future that cannot be related to the present's past is precisely what science cannot hope to capture.

—Paul Samuelson, February 1985 lecture at Trinity University

Inside the Crystal Ball: How to Make and Use Forecasts. Maury Harris

When I first started working as a forecasting economist at PaineWebber in 1980, my professional colleagues at the Fed and in academia were wary. How could I publicize economic forecasts when I knew how hard it is to be right even half the time? What would I do when I was wrong? Would I be fired? If so, could I ever get another job as a forecaster? More than three decades later I still am asked this type of question. Except now the typical query is, "How have you survived for so long in such a potentially precarious professional position?"

Part of the answer is that I have tried to apply, diligently, the same best practices that I have advocated throughout this book. Now, in this chapter, I review those practices and concepts, and I share with you some of my on the job experiences. I discuss how to present a forecast and manage a forecasting job. I address questions such as: How do you present a convincing forecast? When do you "hold" and when do you "fold"? What do you say when you are wrong? How can you keep a forecasting job if your forecasts have been incorrect?

I'd like to pass along a few things I've learned along the way:

Making Forecasts: A Dozen Best Practices

1. *Don't reinvent the wheel.*

   A thorough but time-efficient approach is to first review relevant literature. (See discussion in Chapter 2.)
2. *Pay close attention to how data is gathered and processed.*

   (See further discussion Chapter 2.)
3. *Be prepared to supplement statistical model results and quantifiable data points with institutional and historical judgment.*

   Periods with relatively large in-sample statistical model errors are ripe for being supplemented in this way. For forecasting purposes, do not hesitate to adjust statistical model forecasts via judgmental information that is not quantifiable. (For further discussion, see Chapter 2.)
4. *Be cautious in using frequently revised government economic data as a forecast driver.*

   When data is known to be subject to sometimes large revisions, seek other corroborative information. (See further discussion in Chapter 2 and Chapter 5.)

5. *Avoid using hard-to forecast independent variables as major forecast drivers.*
   Instead, it's better to employ lagged independent variables that have already been reported and are not subject to big revisions. (See further discussion in Chapter 2 and Chapter 5.)
6. *For interest rate forecasting, judgmental inputs are critical.*
   (See further discussion in Chapter 2 and Chapter 11.)
7. *Do not adhere too strictly to any particular school of macroeconomic thought.*
   Not enough weight in recent years has been given to monetarism and supply-side theories. (See Chapter 6.)
8. *Take a critical approach to new normal thinking about the next decade.*
   History suggests "normality" is not "the norm." From an analytical perspective, do not ignore the potential dynamism and adaptability of the U.S. economy. (See Chapters 3 and 8.)
9. *Be wary of exuberant multiplier estimates.*
   Both Keynesian and input-output multipliers can easily become unrealistically high. Be skeptical of any Keynesian multiplier much over 1.5. (See Chapter 5.)
10. *Do not base core inflation forecasts on a simple repetition of the Phillips Curve wage-inflation tradeoff in the previous business recovery.*
    This relationship can shift. (See discussion in Chapter 10.)
11. *In forecasting interest rates avoid simple historical rules of thumb about relationships between longer-term interest rates and inflation and nominal GDP growth.*
    These relationships have dramatically changed over time. (See discussion in Chapter 11.)
12. *When projecting Fed policy, respect what policymakers say in public but remember that they, like all forecasters, will have to change their minds when they are wrong.*
    Fed policymakers run the risk of eventually being behind the curve. (See further discussion in Chapter 11.)

Using Forecasts: Ten Critical Guidelines

1. *Forecasters who are more accurate than the average forecaster in predicting extreme events are less accurate in predicting all events that must be forecast.*
   Such forecasters of rare events (e.g., major recessions) can be like broken clocks—rarely changing their outlooks. (See further discussion in Chapter 1.)

2. *Forecasts can be motivated by forecasters' varying loss functions (i.e., perceived rewards and risks from successful or failed forecasts).*

   Independent forecasters are more likely to go out on a limb than forecasters employed in large organizations. (See further discussion in Chapter 1.)

3. *When judging forecasters' track records over longer time intervals, the consensus often is more accurate than any individual's track record.*

   That said, at any point in time be wary of just going with the consensus. Winners of forecasting derbies for any given time period have a history of herding less to the consensus. Moreover, consensus forecasts often fail at critical turning points. (See further discussion in Chapter 1 and Chapter 4.)

4. *A PhD does not increase the likelihood of its holder being a more accurate forecaster.*

   A more relevant gauge of accuracy is the forecaster's proximity to the event being forecast. (See further discussion in Chapter 1.)

5. *More experienced forecasters tend to be more accurate.*

   The evidence is mixed, though, as to whether more experienced forecasters deviate more or less from the consensus than do less experienced forecasters. (See further discussion in Chapter 1.)

6. *Forecasters who mix judgment with their models generally outperform model-driven economic forecasts.*

   (See further discussion in Chapter 2.)

7. *Specific statistics for assessing forecast accuracy depend on the user's particular needs and objectives.*

   The average (mean) error is a measure of directional bias over a number of forecasting periods. The mean absolute error gauges accuracy. If larger mistakes are more costly, proportionately, than smaller mistakes, the root mean squared error is the appropriate guide. To assess forecasters' comparative skills in projecting a variety of variables over a period of time, there are composite metrics. These can reflect the comparative difficulty (e.g., standard deviation) in forecasting individual variables and the internal consistency of forecasts—a key to credibility. (See further discussion in Chapter 2.)

8. *No one school of economic thought has a monopoly on being more correct and relevant than competitive paradigms.*

The followers of Hyman Minsky (aka Minskyites) excelled at predicting the Great Recession but probably overemphasize debt. Although Keynesian economics sometimes is viewed as dated, it remains as a necessary organizational framework for macroeconomic forecasting. Despite its controversial conclusions about taxation, supply-side economics is relevant for evaluating longer-term potential GDP growth. Monetarism has come to be regarded as an oversimplified view of contemporary financial markets and institutions; but monetarists' views on long and variable lags of monetary policies' economic impacts remain relevant in judging the future implications of the Fed's quantitative easing (QE) policies. (See further discussion in Chapter 6.)

9. *While government economic data are assembled in a politically independent manner, forecasts from the Executive Branch have a history of over-optimism.*

   The Congressional Budget Office probably is a more reliable forecaster. The most politically independent macroeconomic analyses are likely to come from economists within the Federal Reserve System. (See further discussion in Chapter 5.)

10. *Input-output studies of potential benefits from specific policies can be wildly optimistic.*

    Caution is warranted in utilizing conclusions of policy advocates utilizing and sometimes abusing this particular technique. (See further discussion in Chapter 5.)

Surviving: What to Do When Wrong

If you want to be a forecaster, you should accept that you'll be wrong at least some of the time. It goes with the turf. Yet you must maintain your audience's support for your services nonetheless. This can be especially challenging for economic forecasters, who have one of the hardest jobs around. In more than three decades as a Wall Street economic forecaster, I have seen some very successful economists and securities analysts enjoying long careers, despite the inevitable blemishes on their forecasting track records. Based on my firsthand observations, I believe survival has more to do with handling oneself when wrong than with being right a relatively high percentage of the time.

Because forecasters know (or should know) that their projections will err on occasion, they should *always* be prepared to be wrong. How one handles mistakes is extremely important in any job, but it is particularly critical for career longevity in forecasting. It is crucial to remember the following, always: *Just because we don't know everything does not mean we don't know anything. We still know a lot*. The forecaster still can be helpful even when a specific forecast has gone awry.

When presenting a forecast, it is important to *outline risks and signposts*. Doing so helps to establish credibility that the forecaster is being diligent and thorough. Also, when a forecast is wrong, the audience will be less surprised than if it had not been warned about risks along the path to a specific projected future outcome.

In assigning *risks* to a specific forecast, a simple approach is to list events that could influence outcomes on either side. For instance, interest rates will be higher than expected if unemployment is lower than assumed, or they could be lower than expected if foreign economic growth is unexpectedly weak. To quantify risks by citing a range of likely outcomes, one approach is to report the standard error from the regression model on which a forecast is based. In providing a formal statistical probability of an outcome, some forecasters find it useful to use probit models to estimate probabilities conditioned on various assumed independent driver variables.[1] Other forecasters will find it simpler but more helpful to report their own subjective probabilities, suggesting the strength of one's conviction. Just be sure to let your audience know whether your stated probability of success is based on a subjective degree of conviction or stems from a specific statistical model.

For *signposts*, be sure that they are leading, and not coincident, indicators of what is being forecast. I sometimes list as signposts assumed values for lagged independent variables in a regression model used to generate a forecast. For instance, rents change with a lag following variation in rental vacancy rates.

It also is important not to overdo the risks and signposts. Bringing up too many caveats can be interpreted as hedging a bet, signaling an unwillingness to take a clear stand. *A forecaster should never lose sight of the end-user's need for decisiveness*. In my experience, forecasters viewed as either indecisive or as bet-hedgers are less well regarded than forecasters

who are willing to commit, who are willing to stick their necks out—as their clients must do.

I also find it helpful to *plan responses* to various outcomes. (Going through this exercise can also provide self-feedback as to whether a specific forecast makes much sense in the first place.) When clients such as traders need fast answers, it is very helpful to have a response already planned. For example, if an inflation report is greater than expected, financial sector clients are immediately interested in the interest rate impact. It is critical that the forecaster maintain credibility by not appearing clueless after an unanticipated outcome is reported. I find it helpful in such situations to frame my postresult response in terms of, "Here is what I/we have learned from this surprise." This is a time to remember that you probably know more than the audience. Whatever you can tell them is apt to be more helpful than saying you must go back to the drawing board.

It may be helpful to respond to an unanticipated outcome for an economic statistic by noting that data *revisions* could still make an initial forecast correct. However, to go that route convincingly, be sure to cite typical recent ranges of revisions. And try to avoid being seen as too much of a sour grapes responder when you are wrong.

Should you apologize if you are wrong? It depends. Too many apologies ruin a forecaster's credibility. However, *when a mistake has especially serious adverse consequences for your audience, some humility can be a career saver.* I will never forget the shock of the Enron collapse in the summer of 2001. Virtually all of the securities analysts following this stock were wrong and quite understandably horrified. Clients complained that analysts were so distraught that they would not pick up the phone to at least commiserate with their customers. However, at least one analyst I know did maintain the respect of, and brokerage commissions from, professional investor clients. He phoned them and said, simply, "If you never speak to me again, I understand. However, if you seek my help, I will do everything in my power to be useful." It worked.

Perhaps the most important course of action when wrong is to learn from the mistake. Always examine your personal track record to see where you went wrong and why. If there is a persistent bias in your errors, adjust your forecast for that. Though securities analysts regularly do this

with their statistical models, I don't believe they subject their actual forecasts—which reflect the analysts' judgment applied to the models—to the same degree of self-evaluation.

Hold or Fold?

When a critic questioned him about changing a position on a particular issue, John Maynard Keynes is said to have responded: "When my information changes, I alter my conclusions. What do you do, sir?" When forecasters have been wrong, should they still hold on to a forecast awaiting vindication? Or is the evolving best bet to take your losses and change the forecast (i.e., fold)?

Holding: If most of your signposts still point in the direction of your forecast eventually materializing, probably the best strategy is to hold. Your audience should understand why you have made this choice if you have familiarized them with your forecast signposts. In this setting, holding is a good opportunity to communicate conviction. However, before doing so, it is best to see if some variable other than your signpost variables may be exerting a longer-term influence on the behavior of the forecast variable. Also, keep in mind that you don't want to appear unnecessarily stubborn. The consequence could be going out on a limb and sawing it off yourself.

Folding: My experience is that securities analysts and economists are often too fearful of being whipsawed, by folding just when their forecast was about to be right. Although they may also be afraid of being labeled as "capitulating" or "marking to market," those fears must be weighed against the more serious reputational risk of appearing exceptionally stubborn and wrong. If you are wrong and your preassigned signposts are not working, it probably is best to fold, at least for the time being. An audience already informed of your signposts won't be caught off guard.

Whether forecasters hold or fold in a given set of circumstances will naturally reflect their perceived loss function (i.e., perceived cost of loss versus perceived benefit of gain). My advice is to *rid your decisions of your expected psychic comfort or discomfort and focus on the audience's needs.*

In my career as a Wall Street economist, one key consideration in maintaining or abandoning an errant forecast has been a specific audience's investment horizon. Actively managed investment funds, including hedge funds, generally have a shorter time horizon in which to perform than do pension funds and individual investors. With this diverse audience, when wrong about bond yields, for instance, I would change my forecast to go with the unexpected trend over a few months or quarters but usually maintain a multiquarter ahead call unless my signposts had little chance of materializing.

In Chapter 1 we discussed how, in some past studies, forecasters with their own consulting firms were more likely to deviate from the consensus than forecasters employed by larger institutions. The latter organizations are more conscious of potential downside risks for their internal trading and marketing and for their external clients. The former may be influenced by the commercial necessity of publicity. This is not to say that the forecast user should not use independent consulting services, as exploring nonconsensus viewpoints can be very stimulating and helpful in making investment and marketing decisions.

Thriving: Ten Keys to a Successful Career

I have had a reasonably successful three-and-a-half decade career as a Wall Street economist. I have never changed firms and I've been named to *Institutional Investor* All-America Research teams on two dozen or so separate occasions. Also, in 2004, 2006, and 2008, my colleague James O'Sullivan and I were ranked by *MarketWatch* as Forecaster of the Year. In addition, my own teams have received frequent recognition for their forecasting prowess. In 2011, for instance, *Bloomberg* magazine rated us the most accurate of more than six dozen U.S. data forecasters over the 2010 to 2011 period.[2] In the following year, the same publication named me one of the 50 most influential people in the global financial markets.[3] *Everyone has a different specific recipe for their professional successes and achievements but there are some common ingredients.*

1. *Mix judgment with math.*

   I was a much better than average economics student but only an average student in math. That likely has helped me

in forecasting because I have been uncomfortable with purely mathematical models. Almost all of my audiences find statistics mixed with historically based judgment and anecdotes to be more believable and convincing than a pure econometric model.

2. *Be neither broken clock nor weather vane.*

   Only a few forecasters have long careers being either "perma-bulls" or "perma-bears." Although forecast users may admire such savants' sincere conviction, they do not find them reliable. On the other extreme, there are forecasters who change their views with each blip in the news cycle. From a forecast-user's perspective, I would rather get analytical stimulation from a thoughtful broken clock than a weather vane.

3. *Be brief.*

   Important audiences are busy.

4. *Explain "why" succinctly.*

   Economists are too often guilty of giving plenty of "what" but insufficient "why." How do you reconcile that requirement with the need for brevity? A few bullet points on one page will usually suffice, followed by one or two exhibits for each of the key "why(s)."

5. *Beware of black boxes.*

   Throughout my career I have respected technical analysts (i.e., chartists) and monetarists who use single-variable fundamental monetary models. That said, most forecast users want more "why(s)" than these professionals generally supply. I find it useful to illustrate causality with flow charts, which also help show my train of thought. (See example in Figure 13.1.)

6. *State risks.*

   Greater risk sensitivity will be a long legacy of the Great Recession. Useful forecasters often cannot avoid providing either a most likely point estimate or a narrow range of most likely outcomes. However, it always is helpful to state risks framed as second and possibly third most likely scenarios. Be sure, though, to make your most likely scenario clear so that your audience does not depart with the impression that you were just hedging your bets.

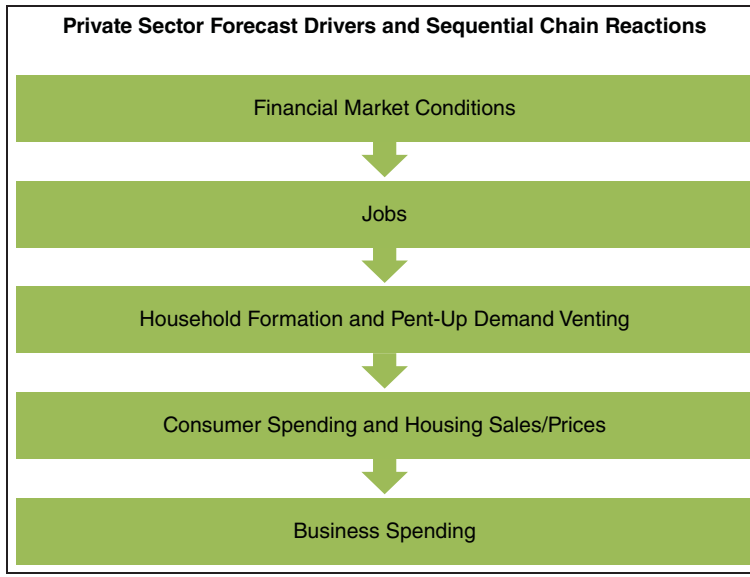

Figure 13.1 Example of Simple Model Presentation
SOURCE: Author.

7. *Educate.*

   How do forecasters keep their jobs when they are wrong more often than not? I think the survivors are the ones who provide useful information. Try never to present a client with only a forecast. For instance, I sometimes also like to discuss what I see as exciting new areas where my team is currently conducting research.

8. *Listen.*

   Never participate in a discussion without asking questions. Everyone likes to have his opinions solicited. In directing my teams' research agendas toward useful commercial ends, I find it extremely helpful to ask audiences what they want to know that they are not learning from other research providers.

9. *Use humor.*

   Humor is handy for more than just pure entertainment purposes. Because economists are teased about not being right all of the time, I sometimes use limericks as a form of self-deprecating humor. (See examples in Figure 13.2.)

According to our foresight
The GDP will be bright
If not, here's our vision
"There will be a revision
And one day we're gonna be right!"

The "hawks" are ready to fight
They think the Fed should be tight
But "doves" demur
They aren't so sure
Who do you think will be right?

A forecast is never "missed"
So says the economist
Who aims with precision
But awaits the revision
And gives the data a "twist."

The GDP was down
The economist said with a frown
"I thought it was higher
They made me a liar
Their data must come from a clown!"

We can't wait to see CPI
We hope it's not too high
But if it is
We'll say in a whiz
"These numbers must be a lie!"

There was an economist named Fred
Whose forecasts were right on the Fed.
Til' the Fed had the nerve
To throw him a curve
And now his face is red.

Figure 13.2 Economist Limericks
SOURCE: Author.

10. *Reiterate your past advice and forecasting record.*

To maintain credibility and good will, I like to review with an audience or individual client what I told them at our previous meeting, even if such advice was not so good. I also find it useful to combine mention of the most recent outcome with some sense of an overall advice-giving track record.

This book aims to improve the reader's ability to make and use forecasts successfully, whether providing advice on the future, building a respectable track record, or simply planning for business needs. By now, however, it should be clear that there is no sure-fire single method that guarantees consistent success. What's critical, however, is to apply a consistent overall approach to forecasting. I believe the five most important elements of that approach are as follows:

1. First, a sense of history is absolutely essential for framing possibilities.
2. Second, the mechanics of prospective economic outcomes should be contemplated in a nonideological fashion, because each of the major schools of economic thought captures at least some relevant behavioral clues to the future.
3. Third, government statistics and studies should always be handled with caution and a healthy dose of skepticism.
4. Fourth, long-term credibility necessitates being willing to change your forecast at times, but not changing your forecasts frequently.
5. Finally, when presenting advice, do not hedge your bets by emphasizing a wide variety of possible outcomes. Instead, to satisfy those asking you about the future, be as decisive as possible, and try not to dump decisions into their laps.

Remember, being wrong at least some of the time goes with the turf when you seek to ordain the future. Despite one's best efforts, there will be inevitable errors and disappointments. How one handles these setbacks is key to longer-term survival as a credible and successful forecaster. Don't hide from mistakes—acknowledge them and explain where you went wrong. And never forget the well-earned satisfaction you feel when you are right. For me at least, the disappointments have been happily outweighed by my exhilaration at successfully forecasting the future and helping others to do the same.

Notes

1. Robert P. Dobrow, *Probability: With Applications and R* (Hoboken, NJ: John Wiley & Sons, 2013).
2. Timothy R. Homan, "The World's Top Forecasters," *Bloomberg Markets*, January 2012.
3. "Most Influential," *Bloomberg Markets*, September 5, 2012.