
Investment Basics XXVII.

The design of a trading system.

ABSTRACT

A trading system is a set of procedures and techniques, which will include the use of technical analysis, designed to make the most of the skills and abilities of the user of the system, and of decision support tools available to the user.

When one first begins to trade, the trading system should be rudimentary, to reflect the level of skill and ability of the trader. Then as one's knowledge of trading improves, and of the analytical methods needed to support profitable trading, the trading system should also grow in sophistication and complexity.

The evolution of the trading system would be determined by the kind of questions asked of the system.

This article reviews the nature of the questions the trading system should be designed to answer, and how these should change over time to reflect the growing skill and knowledge of the user.

INTRODUCTION

Individuals tend to make their trading or investment decisions very much on an ad hoc basis. Decisions are made independently, each on its own merits, using whichever methods and parameters appear to be right and available at the time. Some technical indicators might be used consistently for some period of time, yet unless they are also interpreted exactly the same, the degree of consistency across many decisions would be low.

Further, subjective opinion and emotion could be expected to play a substantive role in the decisions, while the sources of information will often include market tips and rumours.

Not surprisingly, individual traders tend to experience fluctuating results, from highly profitable returns to devastating losses. The cause of this unfortunate situation can often be traced directly to the unsystematic and unstructured way decisions are made.

A possible solution to the problem lies in trading systems designed to match the needs, the skills and abilities and the personality of the individual trader or the investor.

A trading system is a set of procedures designed to obtain the best results over a period of time, given the trader's level, and range, of skills, knowledge, tools and personal objectives.

Trading systems have the significant advantage of providing a basis for discipline – probably the single most important ingredient for success – that would be difficult to achieve otherwise.

Trading systems have a second major advantage in that they provide a test bench for improvement.

Adequate records must be maintained of how decisions were made, and of the factors that were relevant to all the transactions. By doing so, a data base would be established to support systematic analysis of factors that can contribute to or influence various decisions.

The data could be analysed later to determine how different factors correlate with the quality of the decisions made using the trading system. Here particular attention must be paid to the generation of buy and sell signals by the technical indicators and how these were interpreted and used.

Such analysis would identify the deficiencies or weak points of the trading system, and suggest how they could be modified and improved to result in higher profitability and reduced risk.

A disciplined approach, with continuous study and improvement, must produce ever better results over a period of time.

DESIGN CONSIDERATIONS

Trading systems can be designed to answer the following questions:

- * What is the ruling trend in the market – over what time horizon?
- * How far is the trend expected to continue?
- * How near is the first reversal in the trend?
- * What is the risk-reward ratio?
- * What are the buy signals?
- * What are the sell signals?
- * Where is the stop loss for open positions?

However, before these questions are considered, the individual user must obtain clarity on such matters as the underlying expectations for the venture, and the risk profile of the user. From the answers to these questions, it could be decided which market or markets can be exploited, what the approximate range of time horizon should be, and the expected rate of return to provide the best balance between return and risk.

Knowledge of these parameters is essential if the trading system is to match the profile of the user, and provide meaningful signals.

Someone who elects to be active in very volatile markets – futures, or the capital market, for example – must have access to sources of intra day market information, as well as a capability for technical analysis of intra day data.

Once the groundwork has been done to define the basic parameters of the trading system, it should be decided how the system would find answers to the above questions. The investor would look for most of the answers in fundamental analysis, and turn to technical analysis only to improve the timing of the execution of the decisions.

Traders, with a time horizon of a month or two at the outside, down to only hours, or even less, can only use technical analysis as the means to make other than largely subjective decisions.

All trading systems would not use the same technical analysis.

Different time horizons would call for price data of different time periods. Investment decisions, with a time horizon of at least some years, will need weekly closing prices, perhaps even monthly data.

Futures and gilts traders, with a time horizon that could be only a few hours, must have access to intra day charts – of hourly prices, even down to 10 minutes or less – to be fully effective.

Selection of the indicators to use is a personal matter.

Firstly, the trader must select the technical methods or indicators that the trader has confidence in. A lack of confidence in a method can only be a source of vexation. It will unavoidably mean that the trader's subjective distrust of the one signal would favour another signal generated by another indicator, which must increase the risk of poor, even costly, decisions.

Secondly, not all indicators are equally effective at answering the different questions – for example, some are better at identifying a trend, while others are better at warning that a reversal is imminent. Very few indicators indeed are able to estimate the extent or duration of a new trend.

A novice trader would not look for answers to all questions in the list. Initially, people tend to skip trend analysis, and the search for warning signals of a trend reversal, and proceed directly to an automatic response to somewhat simplistic buy signals, generated by moving averages or momentum indicators.

They soon run into the technical dilemma – the need for a trade off between the responsiveness of the signals generated, and the incidence of false signals. A fast response from the indicator, results in too many false signals; a slower response increases the reliability of the indicator, but reduces the potential for profit.

A typical first reaction to the dilemma is to change the parameters for the indicators, i.e. use different periods for averages, or for the momentums. The second step is most often to make the generation of the signals more complex. No single indicator is likely to give satisfactory results. Traders who persevere beyond this point, tend to turn to the use of different indicators in combination. They now require more specific rules to interpret these different inputs and reach a decision when to buy or sell – the beginning of the trading system.

This is usually a period of intense study. The trader no longer has a simple faith in one or two relatively simplistic indicators. Now, the visible evidence that markets move in trends is the basis for a search to identify subtle hints in the price action, able to reveal whether the ruling trend would be sustained, and when it is due for a change.

Initially, this study is likely to concentrate on ever more complex indicators and methods of calculation. In a multidimensional market these one dimensional indicators have so far proved unreliable over the longer term.

Many analysts eventually disregard the conventional technical indicators – averages, momentums and other oscillators – to concentrate on pattern based systems, such as the Elliott Wave Analysis, and the ever more popular yet quite complex Gann analysis. Even studies of traditional patterns – triangles, wedges, megaphones and channels – are being revived, and extended through use of computerised methods to result in more accurate analysis.

At this point, the trading system begins to encroach on the domain of expert systems. Now the rules for making decisions are no longer simple; in particular, the generation of buy and sell signals will become much more complex. Patterns are not always easy to recognise or to describe. Even the analyst may not be aware of the changes to a set of price charts that causes the interpretation to change from buy to hold, or from neutral to sell.

To some, trading systems might appear too complex a way to make buy and sell decisions; others could hesitate to start off on the long path to where they would become skilled at pattern analysis.

These people should steer clear of any temptation to trade over the short term. Without the strict discipline that can only be imparted by some kind of trading system, the venture could fail.

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