Candlesticks, Fibonacci, and Chart Pattern Trading Tools

A Synergistic Strategy to Enhance Profits and Reduce Risk

Robert Fischer
Jens Fischer

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Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Source of all figures is FAM Research 2002.

Library of Congress Cataloging-in-Publication Data

Fischer, Robert, 1942 June 17–
Candlesticks, Fibonacci, and chart pattern trading tools : a synergistic strategy to enhance profits and reduce risk with CD-ROM / Robert Fischer, Jens Fischer.
p. cm.
ISBN 0-471-44861-3 (hard : CD-ROM)
1. Investments. 2. Securities. 3. Investment analysis. I. Fischer, Jens. II. Title.
HG4521.F584 2003
332.63′2042—dc21

2003006623

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

This book is written for all the traders worldwide who contacted us on our Web site www.fibotrader.com and asked for advice.

This book contains a great deal of essential information for successful trading, but the necessary discipline and patience can only come from you.

We thank all those traders and friends who have provided help, criticism, and ideas over the past 20 years. We hope that this book will start a new wave of fruitful discussion that will benefit all of us.

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM.

ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

The following figures in this book are related to this disclaimer: 4.1, 4.5, 4.13, 4.14, 4.15, 4.20, 4.22, 4.27, 4.28, 4.48, 5.24, 5.25, 5.26, 5.27, 5.28, 5.29, 5.31, 5.34, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.13, 6.18, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28, 6.29, 6.30, 6.31, 6.32, 6.33, 6.34, 6.35, 6.36, 6.37.

Preface

Many investors are unhappy with the performance of investment advisors and funds in the past couple of years and want to make their own trading decisions, using the analytic tools and the advice they have accumulated. This book presents easy, reliable trading tools, together with the trading rules to apply them to real-time trading.

Many investment strategies have been presented in books, market letters, and other media. In this book, we describe those tools that appear to work best, and we integrate them into a manageable and understandable trading strategy. Combining different strategies correctly can improve every investor's chances of success under different market conditions. Most importantly, we concentrate on strategies that every experienced investor can easily understand and execute with the WINPHI charting program that is provided on a CD-ROM at the end of this book.

With all the sophisticated computer models that are available, you might think that investing and making money would be getting easier. But just the opposite has happened. At no time in history has so much money been lost so fast, and not only the small investors have suffered. The big investment companies also have had unimpressive performances even though presumably they had all the necessary tools to beat the markets. This clearly shows that crunching numbers with a computer does not ensure success. For many years, we have concentrated on pattern recognition, a technique with proven reliability even when computers are not available.

Money is not made only by finding good entry points in different stocks, stock index futures, financial futures, or commodities. Making money is a strategic game, where it is important to work with stop-loss and profit targets. Traders make money through systematic investing. Then they must apply the same concepts to different products to gain the benefits of diversification.

Being well diversified with a systematic trading approach means that traders are unlikely to make as much money as they would if they put all of their investment money in one hugely successful product. But it makes the investment safer. Millions of investors made and lost a fortune by betting on high-tech companies. Although they bought correctly, they did not know when to sell. This book should help you avoid ever making that kind of mistake again.

Investing systematically has to be learned. Many times, it means executing trading signals at a loss, often when market letters, media, or other experts express the opposite opinion. To be comfortable investing against common opinion is crucial for success, but this is possible only for investors who can trust their trading approach. We hope that with the information in this book, many investors will learn to make successful trading decisions independently from any other published information.

Making money with a systematic approach requires obeying the following rules:

- A systematic trading approach, tested on historical data, should be executed with precision and accuracy (if possible, a computer should generate the signals).
- Although we concentrate on pattern recognition, candlesticks, and Fibonacci ratios, other tested strategies should work as well.
- The portfolio should have 5 to 10 products that are all analyzed using the same trading approach.
- Long and short signals should be allowed.
- Each position should be protected with a stop-loss.
- The profit target should be known once the position is entered.
- Each product should have a historically good trading range.

- Each trading strategy should perform in real-time trading according to the philosophy behind the trading concept. For example, a long and flat strategy cannot make money in bear market conditions, but it should make money in bull markets.

The first two chapters of *Candlesticks, Fibonacci, and Chart Pattern Tools* briefly set forth the psychology and philosophy of successful trading. In Chapter 3, we introduce the basic concepts of the Fibonacci analysis, candlesticks, and chart patterns. Experienced traders can skip these preliminaries and go on to Chapter 4, where we explain how to apply different trading concepts.

The PHI-ellipse is discussed in Chapter 5. We show how it can be successfully applied to real-time intraday trading. Although the WIN-PHI program can work with intraday ASCII data as well, it is very slow. The interested trader can go to our Web site (www.fibotrader.com) and sign up for a free trial period, to obtain an online trading experience. We do not offer fully automated trading approaches, but we introduce readers to some new ways to approach the market.

Finally, in Chapter 6, we combine concepts to demonstrate that traders can improve their profit chances while reducing their risks.

Although the fascination as well as the beauty of graphic trading tools lies in watching their development from day one, it is difficult to have the discipline to wait until Fibonacci price or Fibonacci time goals are reached. Succumbing to the temptation of taking profits a little bit earlier or placing protective stops a little wider could dilute the trader's overall performance profile.

The software has been carefully tested. A *User Manual* for the program on the CD-ROM is included as an Appendix of this book, to help users get started in applying all of the charting tools. The concepts in this book are thoroughly presented and include detailed examples. We hope that readers find our ideas as inspiring, enlightening, useful, and exciting, as we do ourselves.

Robert Fischer
Jens Fischer

Zug, Switzerland, 2003

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Candlesticks, Fibonacci, and Chart Pattern Trading Tools

1

Trading Psychology and Investor Behavior

The market price of a stock at any exchange never represents the company's fair value. The stock instead is trading either above or below that valuation. Over the past couple of years, the potential discrepancy between market capitalization and fair value became painfully obvious to investors. Supported by analysts' unrealistic price forecasts, many high-tech stocks reached untenable high prices and then, in some instances, became worthless because there was no *real* value behind these companies.

In general, the market price fluctuates higher or lower around the fair value, depending how the market sentiment values the company.

GUIDELINES FOR INVESTORS

In the following sections, we list some rules that can help investors improve their investment decisions. These guidelines come from our experience and are not necessarily based on new theories.

1. Know Yourself

If you start sweating when you watch the price swings of a product you have invested in, you either have the wrong trading concept, are in the wrong products, or your positions are too big.

2. Put Your Ego Aside

The biggest losses happen after investors make their first big profits. If you accumulate profits with a proven, tested investment strategy, you can pride yourself on its success.

However, if you make profits without an investment strategy, you may lose not only all your profits but your total investment. Unexpected price moves do not have to mean big losses; they occur because investors work with the wrong trading concept.

3. Hoping and Praying Do Not Guarantee Success

Many traders keep repeating the same mistake: They take small profits and let the losses run. The main reason to work systematically with an investment concept is to get the best average performance. This requires placing a stop-loss with *every* trading position and calculating the profit target when opening a position.

Hoping that losses will become profits by waiting a "little bit longer" is gambling. It might be appropriate once in a while, but in the long run, it ruins every account.

4. Investors Must Learn to Live with Losses

It is easy to enjoy profits, but everyone hates losses. A market price that drops below the entry price is not the only reason for a loss. If a position with a 100 percent profit is liquidated at the entry price, this is also a big loss in the account, although it may not seem as damaging.

5. Never Double Your Losses

Dollar-cost averaging is one of the best strategies for investors if they execute it systematically as part of a long-term strategy.

Almost all huge bankruptcies in trading companies worldwide happened because they doubled up losing positions. Hoping to recover losses through additional leverage never works unless someone is really lucky.

6. Know Your Pain Level

Investors create their biggest problems when they change their investment strategy without sufficient reason. The trouble begins when traders jump from one trading strategy to another to follow the short-term sentiment, mainly because a product seems to have changed.

Each investment strategy has its advantages and disadvantages. Someone who has expertise in picking stocks should continue to use this approach, despite the risk of big drawdowns. A perfect trading concept does not exist, unless someone has discovered a niche product and keeps quiet. At the same moment that this niche market becomes common knowledge, the profit potential disappears.

Each investment strategy has a predetermined pain level that investors can identify. It is important to know this pain level before executing an investment strategy.

7. Diversify the Risk

No matter how promising the future of a product may seem, diversify the risk. Many traders profitably trade the same product every day and are especially successful in intraday trading. But these traders are disciplined and have specific product knowledge that is not available to most people.

In general, diversifying the risk with a systematic trading approach will result in a much more stable equity curve than investing in a single product.

8. Making Money by Trading Is Hard Labor

Many people believe that that it is easy to make money by investing in stocks, bonds, stock index futures, or commodities.

The opposite is true. Investors who show quick profits through trading either have inside information or are remarkably lucky. Average investors have neither of these advantages.

All traders must develop a personal profile of risk preference and find a systematic trading style that fits the profile. Then they have to execute it. Months or years of systematic trading may be necessary before real-time trading results confirm that the trading concept works.

9. Intuition versus Execution of a Tested Trading Concept

All of the information that comes over the tickers, from newsletters, and through the Internet is already old when we receive it. There will always be someone with faster access who can take advantage of that information. Speculating with this "old" information is dangerous.

Trading concepts that have been tested and have good historical track records on paper provide valid information only if the advisor is willing to share how the trading concept works.

Real-time trading records are only reliable if market behavior does not change. Many of the successful fund managers in the 1980s did less well in the 1990s because the market patterns were very different. Investors must be highly skilled to identify trading concepts that did not perform well in the past but will perform well in the future.

10. The Importance of a Trading Plan

The secret of success on the exchanges is not to make money fast, but to make it consistently.

One of the most difficult accomplishments for traders is to create a portfolio that builds up equity over the long term, independently of market conditions. To reach this goal, it is essential to work with a reliable investment strategy and to guard against being greedy.

11. Feel Comfortable with Your Trading Strategy

Successful traders begin the morning with a trading concept that they can use comfortably for executing trading signals throughout the day, no matter what the markets are doing.

Feel good about your trading strategy as long as the real-time trading results are in line with the historical test results. If the maximum drawdown gets bigger than the drawdown of the historical test results, reevaluate the trading concept.

12. Nothing Is More Important than Discipline

Discipline is always the most important attribute of successful traders. Many traders fail or have limited success because they cannot control their emotions and execute their established trading strategy in any given market situation.

13. Value of Available Trading Concepts

Many worthwhile trading concepts are available. But none of them will always make money. An effective trading concept does not have to be difficult, but it must be executable. The trader has to believe in it and be willing to trade it even after a string of losses.

2

The Magic Figure Three

In presenting Fibonacci Trading tools, candlesticks, and chart price patterns, we concentrate on the ones that have a high analytical value and can be combined with each other. Our goal is to avoid information overflow, while providing adequate detail, because all of the strategies can be important in different market situations.

A key question is whether all of these patterns have a common denominator. The answer is a definitive “yes”—all of them include the figure three:

- Three waves in price extensions.
- Three waves as the basic structure of the PHI-ellipse.
- Three peaks and valleys in triple top/bottom chart patterns.
- Three peaks and valleys in head and shoulder formations.
- Three peaks (or valleys) in symmetrical, ascending, or descending triangles.
- Three rising valleys and three falling peaks formations.
- Three peaks or valleys in rectangles, flags, wimples, wedges, and other chart formations.

Traders who analyze only chart patterns that feature the figure three and eliminate all other formations may lose some price moves, but their overall analysis will be safer and more accurate because they will know what to look for on the price charts. The biggest advantage of this approach is that most investors can identify patterns and execute corresponding trading strategies with or without a computer.

Figure 2.1 shows eight relevant chart patterns based on the figure three.

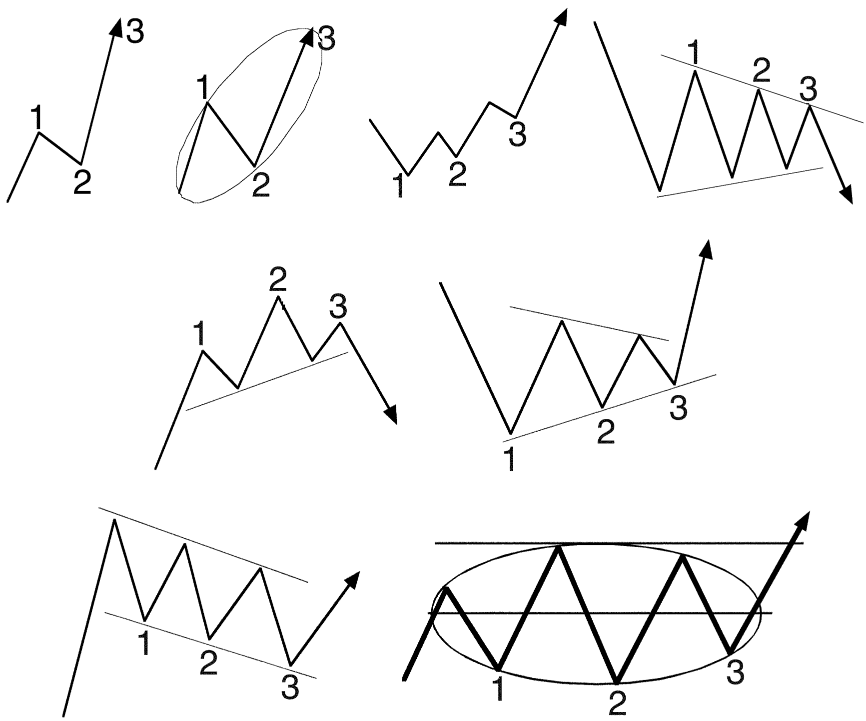

Figure 2.1 Chart patterns including the magic figure "three."

As explained in the following chapters, the PHI-ellipse is the best trading instrument for daily and intraday trading. What makes this trading tool interesting and unique is its ability to surround most chart patterns that include the figure three. Whenever we can integrate chart patterns into the PHI-ellipse, it allows us to work with only one trading tool. This is why in this book we focus on trading tools that have similar characteristics, and many times we identify the same turning points or breakouts, but from a different perspective.

3

Basic Principles of Trading Strategies

This chapter focuses on the key principles of four successful trading strategies: (1) Fibonacci principles, (2) candlestick formations, (3) chart patterns, and (4) trend lines and trend channels.

The analysis is simple and concise, but nonetheless provides readers with all of the tools and insight required to apply the trading strategies discussed later in the book.

FIBONACCI ANALYSIS

Fibonacci (1170–1240), an Italian merchant, became famous in Europe because he was also a brilliant mathematician. One of his greatest achievements was to introduce Arabic numerals as a substitute for Roman numerals.

He developed the Fibonacci Summation Series, which runs as follows:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, . . .

The mathematical series tends asymptotically (approaches slower and slower) toward a constant ratio.

This is an irrational ratio, however; it has a never-ending, unpredictable sequence of decimal values stringing after it and can never be expressed exactly. If each number, as part of the series, is divided by its preceding value (e.g., 13 ÷ 8 or 21 ÷ 13), the operation results in a ratio that oscillates around the irrational figure 1.61803398875 . . . , being higher than the ratio one time and lower the next. We will never know, into infinity, the precise ratio (even with the powerful computers of our age). For the sake of brevity, we refer to the Fibonacci ratio as 1.618 and ask the reader to keep the margin of error in mind.

This ratio had begun to gather special names even before Luca Pacioli (1445–1514), another medieval mathematician, called it "divine proportion." Among its contemporary names are "golden section" and "golden mean." Johannes Kepler (1571–1630), a German astronomer, referred to the Fibonacci ratio as one of the jewels in geometry. Algebraically, it is generally designated by the Greek letter PHI:

$$\text{PHI} = 1.618$$

And it is not only PHI that is interesting to scientists (and traders). If we divide any number of the Fibonacci summation series by the number that follows it (e.g., 8 ÷ 13 or 13 ÷ 21), the series asymptotically gets closer to the ratio PHI′ with

$$\text{PHI}' = 0.618$$

This is a remarkable phenomenon—and a useful one when designing trading tools. Because the original ratio PHI is irrational, the reciprocal value PHI′ to the ratio PHI necessarily is also an irrational figure, which means that again there is a slight margin of error when calculating 0.618 in an approximated, shortened way.

We have discovered a series of plain numbers that can be applied to science by Fibonacci. Before we try to use the Fibonacci summation series to develop trading tools, it is helpful to consider its relevance in nature. It is then only a small step to reach conclusions about the relevance of the Fibonacci summation in international market movements, whether in currencies or commodities, stocks, or derivatives. Humans subconsciously seek the divine proportion, which is nothing but a constant and timeless striving to create a comfortable standard of living.

The Fibonacci Summation Series in Nature and Geometry

It is remarkable how many constant values can be calculated using Fibonacci's sequence, and how often the individual numbers of the sequence recur in myriad variations.

This is not just a numbers game, however; it is the most important mathematical representation of natural phenomena ever discovered. Generally speaking, the Fibonacci summation series is nature's law, and it is a part of the aesthetics found in any perfect shape or curve.

Fibonacci discovered how nature's law related to the summation series when he proposed that the progeny of a single pair of rabbits increased in a repeatable pattern:

> Suppose there is one pair of rabbits in January, which then breed a second pair of rabbits in February, and, thereafter, these offspring produce another pair every month. The mathematical problem is to find how many pairs of rabbits there will be at the end of December.

To solve this little algebraic puzzle, we tabulate the data in four columns:

1. The total number of pairs of breeding rabbits at the beginning of each given month.
2. The total number of pairs of nonbreeding rabbits at the beginning of each month.
3. The total number of pairs of rabbits breeding during each month.
4. The total number of pairs of rabbits that have been bred at the end of 12 months.

Table 3.1 shows the progression to the total number of rabbits, based on the four criteria.

Table 3.1 Progeny of a Single Pair of Rabbits

Month	(1)	(2)	(3)	(4)
January	0	1	0	1
February	1	0	1	2
March	1	1	1	3
April	2	1	2	5
May	3	2	3	8
June	5	3	5	13
July	8	5	8	21
August	13	8	13	34
September	21	13	21	55
October	34	21	34	89
November	55	34	55	144
December	89	55	89	233

Source: The New Fibonacci Trader Workbook, by Robert Fischer (New York: Wiley, 2001), p. 20.

Each column contains the Fibonacci summation series, formed according to the rule that any number is the sum of the pair of immediately preceding numbers.

One needs only to look at the beauty of nature to appreciate the relevance of the Fibonacci ratio PHI as a natural constant. The number of axils on the stems of many growing plants and the number of petals on flowering plants provide many examples of the Fibonacci ratio and underlying summation series. The following illustrations depict some interesting applications of this mathematical sequence.

Fibonacci Numbers Found in Plants

The sneezewort, a Eurasian herb, is an ideal example of the Fibonacci summation series in nature, for every new branch springs from the axil and more branches grow from a new branch.