How To Apply Fibonacci Math to Real-World Trading

Have you ever given an expensive toy to a small child and watched while the child had less fun playing with the toy than with the box that it came in? In fact, I can remember some of the boxes I played with as a child that became spaceships, time machines or vehicles to use on dinosaur safaris.

In many ways, Fibonacci math is just like the box that kids enjoy playing with imaginatively for hours on end. It's hard to imagine a wrong way to apply Fibonacci ratios or multiples to financial markets, and new ways are being tested every day. Let's look at just some of the ways that I apply Fibonacci math in my own analysis.

• Fibonacci Retracements

Financial markets demonstrate an uncanny propensity to reverse at certain Fibonacci levels. The most common Fibonacci ratios I use to forecast retracements are .382, .500 and .618. On occasion, I find .236 and .786 useful, but I prefer to stick with the big three. You can imagine how helpful these can be: Knowing where a corrective move is likely to end often identifies high probability trade setups (Figures 7-1 and 7-2).

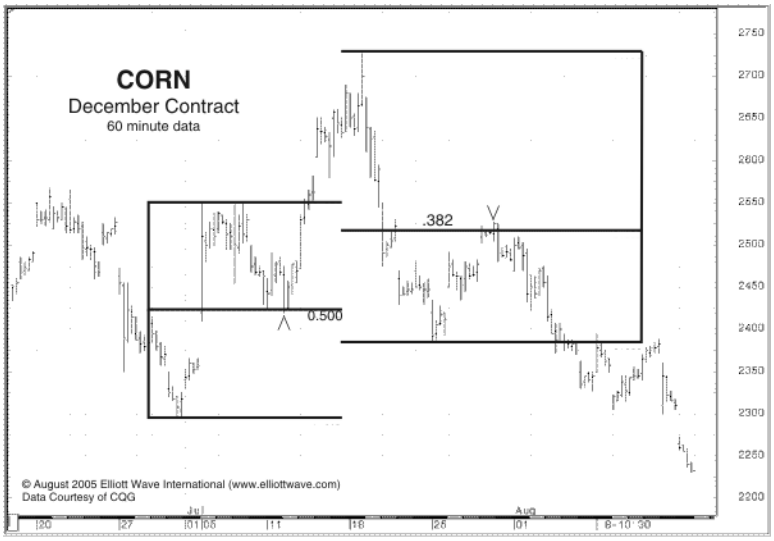

Figure 7-1

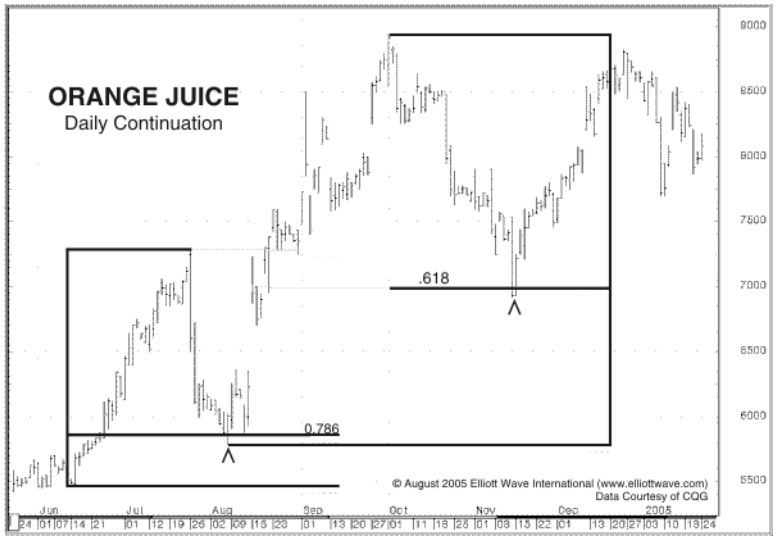

Figure 7-2

• Fibonacci Extensions

Elliotticians often calculate Fibonacci extensions to project the length of Elliott waves. For example, third waves are most commonly a 1.618 Fibonacci multiple of wave one, and waves C and A of corrective wave patterns often reach equality (Figures 7-3 and 7-4).

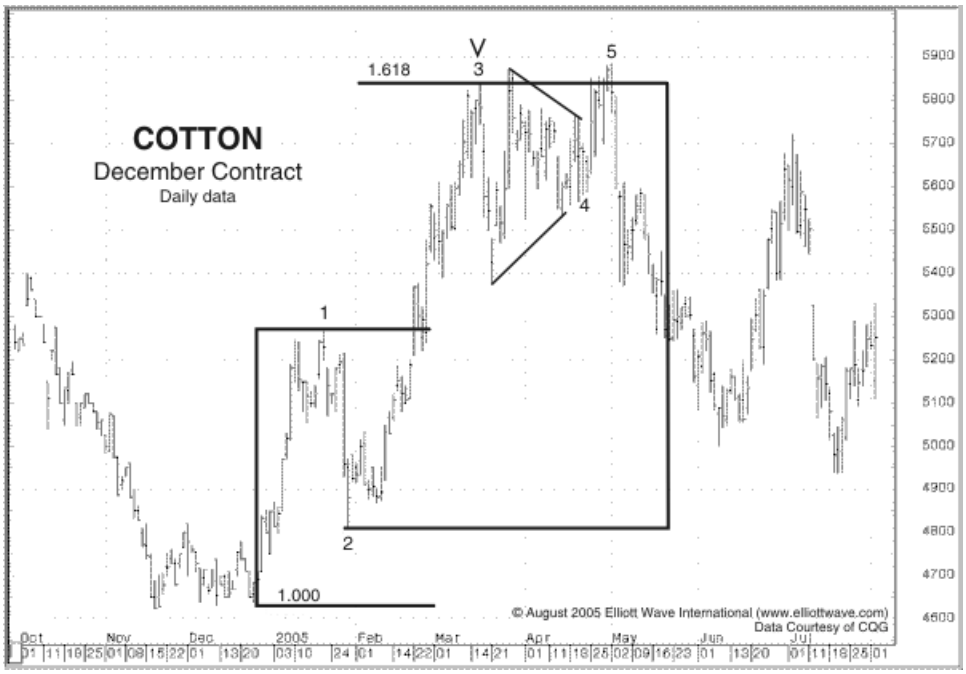

Figure 7-3

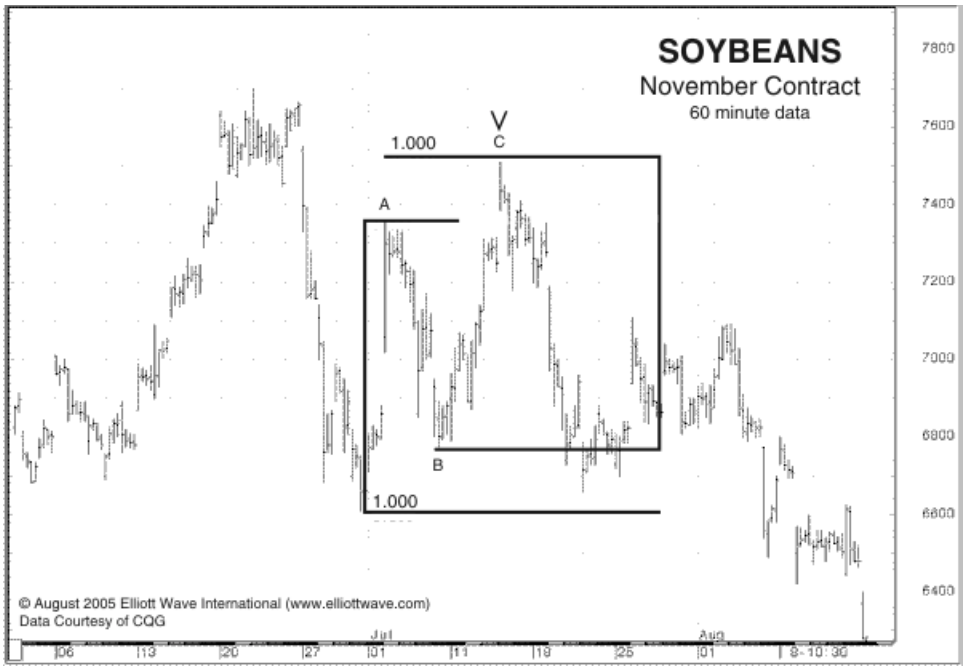

Figure 7-4

One approach I like and have used for a number of years is a "reverse Fibonacci" application, which uses primarily 1.382 and 2.000 multiples of previous swings to project a price target for the current wave (see Figure 7-5). I have found that this method has a lot of value, especially when it comes to identifying trade objectives.

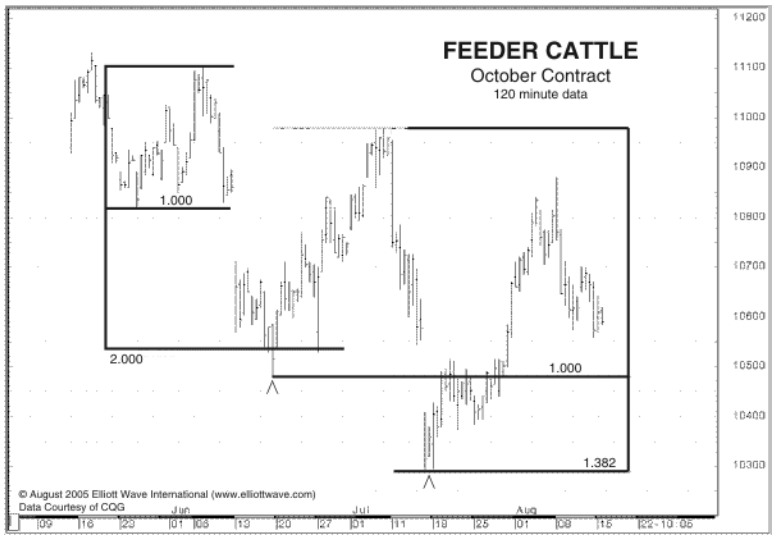

Figure 7-5

• Fibonacci Circles

Fibonacci circles are an exciting way to use Fibonacci ratios, because they take into account both linear price measurements and time. Notice in Figure 7-6 how the January 2005 advance in Cotton ended right at the 2.618 Fibonacci circle or multiple of the previous swing. Again in Figure 7-7, we see how resistance created by the 2.618 multiple of a previous swing provided excellent resistance for the February rally in Wheat. Moreover, the arc created by this Fibonacci circle provided solid resistance for price action during July and August of that year as well.

Fibonacci circles are an exciting way to use Fibonacci ratios, but they come with a word of warning: because this technique introduces time into the equation, it is scale-sensitive, meaning that compression data will sometimes distort the outcome.

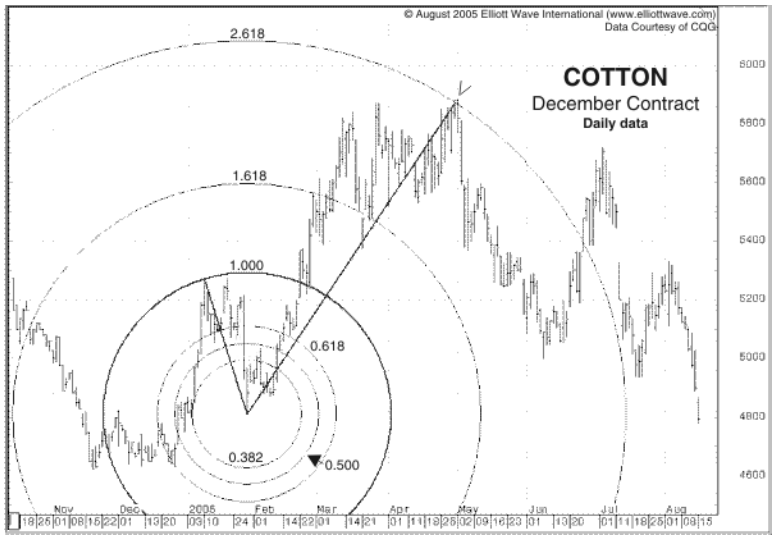

Figure 7-6

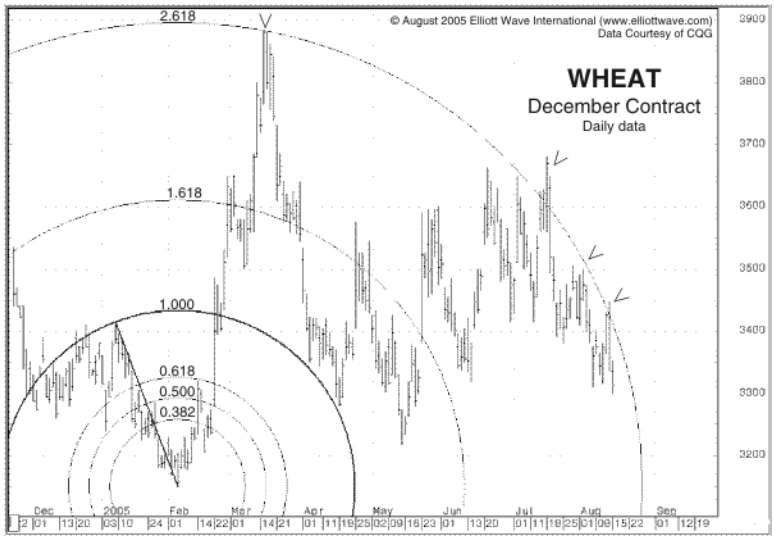

Figure 7-7

• Fibonacci Fan

The Fibonacci fan is another exciting approach using Fibonacci retracements and multiples that involve time. Notice how the .500 Fibonacci fan line in Figure 7-8 identified formidable resistance for Cocoa in June 2005. A Fibonacci fan line drawn from the March and June peaks came into play in July and again in August by identifying support and resistance (i.e., 1.618 and 1.000) (Figure 7-9).

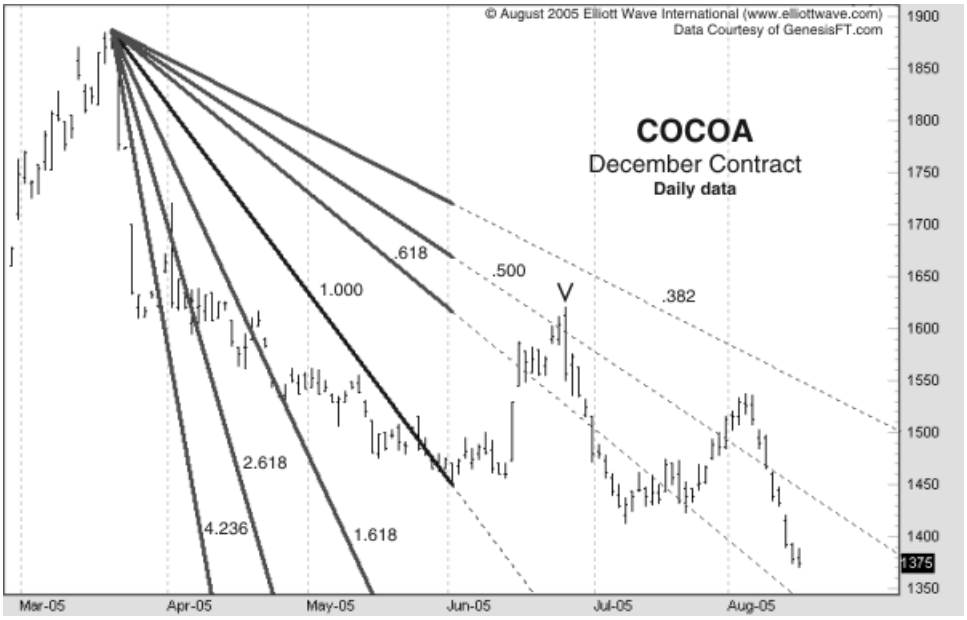

Figure 7-8

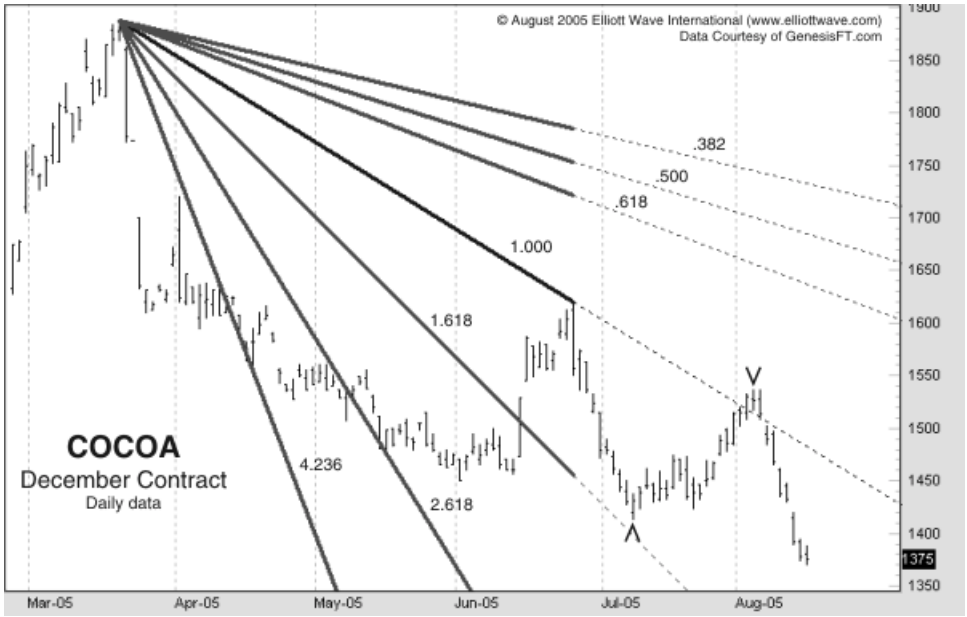

Figure 7-9

• Fibonacci Time

And, finally, there is Fibonacci time. Figure 7-10 illustrates probably the most common approach to using Fibonacci ratios to identify turning points in financial markets. As you can see, it simply requires multiplying the distance in time between two important extremes by Fibonacci ratios and projecting the results forward in time. This timing approach identified two excellent selling points in Pork Bellies, one of which was the market's all-time high, which occurred at 126.00 in May of 2004.

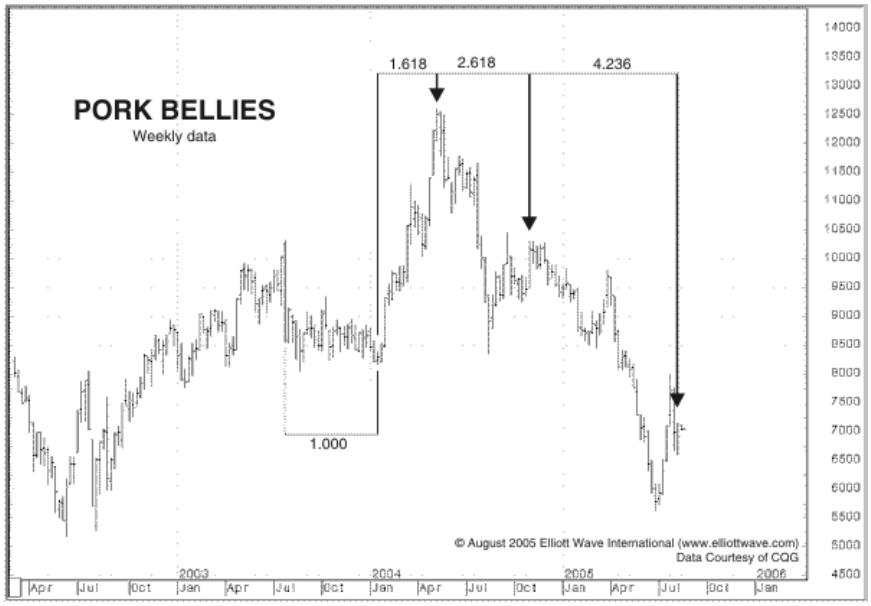

Figure 7-10

Another way to time potential turns in financial markets is to use the Fibonacci sequence itself (i.e., 1, 1, 2, 3, 5, 8, 13, 21, etc.). In Wheat, beginning on March 15, 2005 it is easy to see how this approach successfully identified several significant turns in price (Figure 7-11). Also notice how this methodology points to early October as potentially important. [Editor's note: Wheat prices made two-month highs with a double top on September 30 and October 12, then fell 14% into late November.]

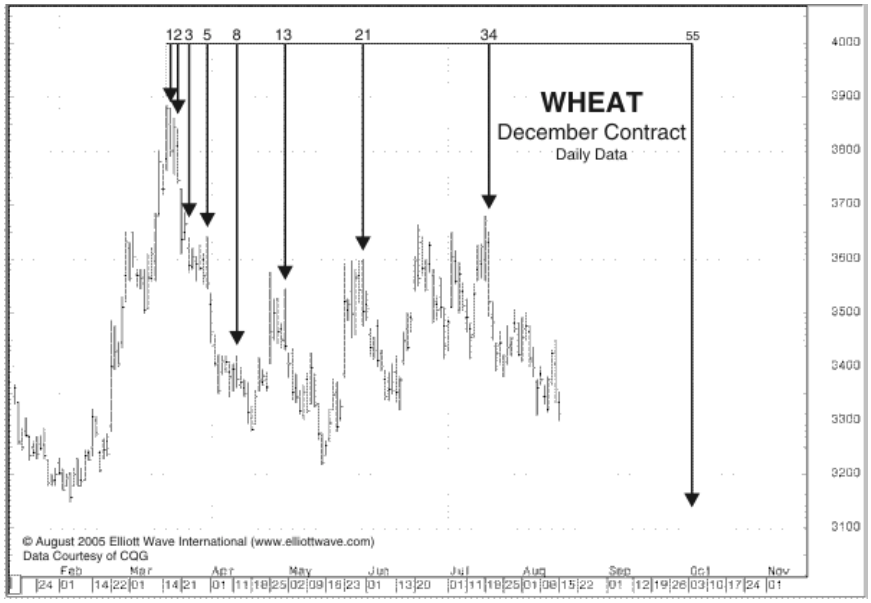

Figure 7-11

A pioneer in the research of Fibonacci relationships in time is Christopher Carolan of Calendar Research. To acquaint yourself with his ground-breaking research into this field, check out his website, www.calendarresearch.com.

Conclusion

In the end, just as there is no wrong way to play with a box, there is no wrong way to apply Fibonacci analysis to financial markets. What is even more exciting, there are ways of applying Fibonacci to market analysis that haven't been revealed or discovered yet. So take your Fibonacci box and have fun, and, remember, you are limited only by your imagination. If you find something new, let me know.

[AUGUST 2005]

Who Was Fibonacci and Why Is He Famous?

For a brief history on the Fibonacci sequence, here's an excerpt from Section V of *Trader's Classroom Collection: Volume 1* (pp. 20-21):

> "Leonardo Fibonacci da Pisa was a thirteenth-century mathematician who posed a question: How many pairs of rabbits placed in an enclosed area can be produced in a single year from one pair of rabbits, if each gives birth to a new pair each month, starting with the second month? The answer: 144.
>
> "The genius of this simple little question is not found in the answer but in the pattern of numbers that leads to the answer: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144. This sequence of numbers represents the propagation of rabbits during the 12-month period and is referred to as the Fibonacci sequence.
>
> "The ratio between consecutive numbers in this set approaches the popular .618 and 1.618, the Fibonacci ratio and its inverse. (Other ratios that can be derived from non-consecutive numbers in the sequence are: .146, .236, .382, 1.000, 2.618, 4.236, 6.854…)
>
> "Since Leonardo Fibonacci first contemplated the mating habits of our furry little friends, the relevance of this ratio has been proved time and time again. From the DNA strand to the galaxy we live in, the Fibonacci ratio is present, defining the natural progression of growth and decay. One simple example is the human hand, comprising five fingers with each finger consisting of three bones. [Editor's note: In fact, the August 2005 issue of *Science* magazine discusses Fibonacci realtionships on the micro- and nano- level.]
>
> "In addition to recognizing that the stock market undulates in repetitive patterns, R.N. Elliott also realized the importance of the Fibonacci ratio. In Elliott's final book, *Nature's Law*, he specifically referred to the Fibonacci sequence as the mathematical basis for the Wave Principle. Thanks to his discoveries, we use the Fibonacci ratio in calculating wave retracements and projections today."

We hope you enjoyed this free report. If you liked the content contained herein be sure to check out EWI's *Trader's Classroom Collection* ebook {http://www.elliottwave.com/products/traderscollection/default.aspx?code=clubewi}. Four years in the making, *Trader's Classroom Collection Volumes 1 & 2* feature 128 pages and 23 chapters from one of the most experienced Elliott wave teachers; Jeffrey Kennedy. Each chapter gives you valuable tips and techniques to help you identify turns and trends in the markets.

Also be sure to check out Jeffrey's online trading tutorial: How to Spot Trading Opportunities Using the Wave Principle {http://www.elliottwave.com/education/online_tutorial/default.aspx?code=club}.