

The Sartin Method: A Brief Description

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Introduction

This article is intended to offer only the briefest explanation of the Sartin Method. For more detailed information we highly recommend **Modern Pace Handicapping** by Tom Brohamer (Daily Racing Form Press, NY, 2000) and **Pace Makes the Race** by Hambleton, Schmidt, Pizzolla & Sartin (Henry House, Englewood Cliffs, NJ, 1991).

The Sartin Method is named after Dr. Howard Sartin, a clinical psychologist who developed it in the late 1970's. In essence, it is an approach to analyzing a race based on the velocities at which horses have run at various stages of races. It's not a "system." It would not be unusual to find a room full of handicappers using this methodology yet coming up with different selections for the same race.

Use of the Sartin Method generally requires a computer to perform otherwise tedious calculations. Velocity, perhaps more popularly viewed as "speed" is a measure of how fast a horse was running. Measured generally in feet per second, its calculation requires dividing the distance run by the time it took to cover that distance. Generally, past performance charts like those published in the Daily Racing Form, include the time it took the leader to reach certain points or "calls" and the position and number of lengths behind the leader for the horse in question. So calculation of velocity requires that you know the distance to or between various calls (which is not the same for all races), and make a correction to reflect that the horse in question took longer to reach the call than the leader (unless of course, if it was the leader). Although this calculation can be carried out with a hand calculator, it can become quite tedious. A computer program, such as the **Sartin Method Pro Calculator** (available at <http://sports-bet-advantage.com>), can take the drudgery out of manually punching in all the numbers and doing all the calculations.

The Sartin Method starts off by calculating the average velocities run between the standard calls, and then calculates additional factors, most of which have the dimensions of velocity, but do not correspond to actual velocities run at various points in the race.

Again, the Sartin Method is not a "system." Given the ability to calculate the factors used in this methodology, the user still has to decide whether to base his handicapping decisions on calculations from the last race the horse has run, the best race, or something in between. And, he has to interpret the calculations as well.

The Velocity Calculations

The Sartin Method uses four calculations which reflect actual average velocities as well as four other factors which are related to these velocities. The actual velocity calculations are:

The First Fraction (1Fr) – this is the distance from the start of the race to the first call, divided by the time it took the horse to cover this distance (the average velocity to the first call).

The Second Fraction (2Fr) – or “middle” fraction is the average velocity between the first and second calls.

The Final Fraction (3Fr) – is the average velocity between the second call and the finish of the race.

The Early Pace (EP) – is the average velocity from the start of the race to the second call. This pace factor is very important because the distance covered amounts to between 2/3 to 3/4 of the total distance of most races.

The additional four calculated factors are:

The Sustained Pace (SP) – is the average of the Early Pace (EP) and the Final Fraction (3Fr). Note that this has the same dimensions as velocity, but does not correspond to a velocity run at a certain part of the race because the Early Pace and Final Fraction velocities are computed for different distances.

The Average Pace (AP) – is computed differently for sprint and route races. For sprint races the Average Pace is the average of the 1Fr, 2Fr and 3Fr. For routes, it is the average of EP and SP.

Factor X (FX) – is the average of the first (1Fr) and final (3Fr) fractions. This factor is only significant in sprint races.

Percent Early (%E) – is the ratio of the Early Pace (EP) to the sum of the Early Pace and Final Fraction (EP + 3Fr). This is intended to measure the way a horse expends its energy during a race. More about this later.

Interpretation

In a nutshell, a Sartin Method practitioner generally begins by calculating the Early Pace (EP), Average Pace (AP) and Sustained Pace (SP) for each horse and basically assigns it a rank in each calculation. So for example, five horses may wind up with rankings similar to those shown below.

Horse	EP	SP	AP
One For Money	1	3	3
Two For Show	3	4	5
Three Is Ready	5	1	2
Go For Four	2	5	4
Five Alive	4	3	1

Clearly One For Money shows the best balance of Early and Late Pace capabilities. However, there's a lot more to consider. What about running style? If he's a front runner and this is a turf route where closers have been winning most races we may want to toss him out. His EP ranking makes it look like he's the early leader in this race, but if Three Is Ready is a closer, his SP and AP rankings may make him the better bet.

Looking at these velocities can help you to visualize how a race will be run. Obviously, the race is always run by the horse who runs with the highest average velocity. But we all know that you can't simply look at the final times of previous races and pick the horse with the fastest time. How fast a horse will run today will be determined largely by HOW the race is run. If a horse is drawn into an early speed battle, it may expend so much energy early that it has nothing left at the end.

Which brings us to the Percent Early kind of analysis. The Percent Early calculation is an attempt to measure the way a horse expends its energy during a race. This factor is not conclusive taken by itself, but if a horse has competitive velocity numbers and his %E falls into the range corresponding to most winners of this type of race, it is a strong indicator. It is also a strong potential disqualifier if his velocity numbers look good, but his %E is at odds with what has been winning.

We have a slight problem with this aspect of the Sartin Method. While we whole-heartedly endorse the concept of Energy Distribution, the Sartin %E simply does not measure this. The Sartin Method's Percent Early calculation is based on the assumption that energy is proportional to velocity. This is just not true. Kinetic Energy (or the energy of motion) is proportional to the square of the velocity. You might remember Einstein's famous $E=mc^2$. In Einstein's equation, c is the velocity of light. However, the equation applies to "down to earth" velocities as well.

Therefore, we use a factor which we call the Pitlak Energy Ratio (**PER**). Our **PER** is calculated using the square of the velocities: $PER = EP^2 / VF^2$. So, a horse that runs the entire race at a constant velocity would show a "Percent Early" of 0.5 in the original method, and a PER of 1.0 in ours. A horse that ran an Early Pace that was 20% higher than in the final fraction would have shown a "Percent Early" = $0.545 [1.2/(1.2 + 1)]$ but have a $PER = 1.44 [(1.2 \times 1.2)/(1 \times 1)]$. We think the PER is not only a more accurate measure of energy distribution, but easier to interpret as well. Any PER greater than 1 shows a horse that expends more energy in the early part of the race, a PER less than 1 shows a horse that expends more energy in the close.

We have found that a comparison of the PER's of the horses in today's race with those who have been winning *similar* races on *today's track*, gives a new insight into handicapping the race. The PER cannot be considered all by itself, a horse can show a superior PER calculated from very slow values of EP and VF. But, when other factors are relatively equal, the PER can be the deciding factor. Of course, proper use of this factor means that you must take the time to collect PER data from the winners at your track!