The Crucial Importance of Pace in Sprint Handicaps

A geegeez.co.uk Special Report

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Introduction

As we all know, making money from backing or indeed laying horses is not easy. You need a combination of many things I believe – hard work; a good understanding of what you are trying to achieve; some sort of specialism as I feel there is simply too much racing, and there are too many horses to gain a handle on if you don't specialise; and, last but not least, a bit of luck.

The subject of this report is pace in a race, specifically in five furlong sprint races. When I talk about *pace* my main focus is the initial pace in a race and the position the horses take up early on. One of the many useful aspects of geegeez.co.uk is the pace section and the stats I am sharing with you in this article are based on the site's pace data (which can be found in the Pace tab on the racecard).

The pace data on Geegeez is split into four run styles - Led, Prominent, Mid Division and Held Up. Let me try to explain what type of horse fits what type of pace profile:

Led – essentially horses that lead early, usually within the first furlong or so; or horses that dispute or fight for the early lead;
Prominent – horses that lay up close to the pace just behind the leader(s);
Mid Division – horses that race mid pack;
Held Up – horses that are held up at, or near the back of the field.

Thus after each race all horses are assigned points in regards to what position they took up early in the race. Leaders get 4, prominent runners 3, horses that ran mid division 2, and those held up score 1. Geegeez has 96% of runners' pace comments scored, from a total of about 1,116,000. [The others are things like unseated rider at the start, or where there is no discernible pace reference in the comment].

If you click the pace tab on the website you are presented with pace data regarding the specific course and distance of that race, and pace data for each horse covering their last four UK or Irish runs. For this article I am concentrating on the course data and creating pace figures for specific courses and distances – namely handicap races run over 5 furlongs. I have always been a fan of sprint handicaps and early pace in sprint handicaps generally gives a bigger advantage to front runners than races over longer distances. In addition to this, some courses offer a bigger advantage to front runners than others as you will see.

The first set of data I wish to share with you is the overall pace stats for 5f turf handicaps (minimum number of runners in a race 6):

Pace comment	Runners	Wins	SR%
Led	3450	637	18.5
Prominent	9987	1078	10.8
Mid Division	3187	235	7.4
Held Up	8465	567	6.7

As can be seen from the table above, horses that led, or disputed the lead early, have a huge advantage in turf 5f handicaps. So, if we could predict the front runner or front runners in each race we should be 'quids in', and indeed we would be. Unfortunately, it is not an exact science and how best to do this I will cover later in this report.

Best performing 5f handicap tracks for front runners

My aim for this article is to show you the differences in the course figures for 5f handicaps and how some courses are more suited to early leaders/front runners than others. Here are the courses with the best strike rates (minimum 40 runners):

Course	Front Runners	Wins	SR%	P/L SP	IV
Chester	88	31	35.2	120	3.38
Catterick	196	47	24	177.71	2.51
Hamilton	170	39	22.9	130.29	2.04
Beverley	197	44	22.3	167.29	2.51
Epsom	50	11	22	45.5	2.96
Nottingham	219	48	21.9	224.08	2.32
Leicester	88	19	21.6	60.75	1.91
Windsor	160	34	21.3	100.31	1.9

Chester has amazing stats for early leaders: the tight turning 5f clearly suits front runners and, when combined with a good draw, front runners are clearly hard to

peg back. Another round 5f, Catterick lies second with excellent figures also. Keep in mind that the average strike rate is 18.5% for all courses over this minimum trip.

Worst performing 5f handicap tracks for front runners

At the other end of the scale here are the courses with the poorest stats for early leaders/front runners in 5f handicaps:

Course	Front Runners	Wins	SR%	P/L SP	IV
Newmarket (July/Rowley combined)	88	12	13.6	-8.37	1.19
York	106	14	13.2	21	1.78
Haydock	146	18	12.3	-18.17	1.25
Sandown	119	13	10.9	-19.37	1.04
Yarmouth	96	10	10.4	-39.58	0.86
Ascot	98	8	8.2	-30.5	0.99
Doncaster	90	6	6.7	-32.5	0.81

It is interesting to see York in this list – York is often considered a decent front running track, but that perception is not supported by the figures.

Chester performance by number of runners in race

Looking at Chester in more detail, we can split the data by number of runners:

Runners in race	Front Runners	Wins	SR%	P/L SP	IV
6 to 8	36	18	50	90.5	3.65
9 to 11	35	11	31.4	23.5	3.22
12 to 14	17	2	11.8	6	1.46

Here at geegeez.co.uk, you are able to change the figures on the site to suit your own personal requirements and to consider a field size range of your choice.

Overall performance by number of runners in race

As we can see from the Chester figures, the smaller the field size, the better it has been for front runners. The general perception of punters I believe matches the Chester data – in other words most punters believe front runners are more likely to win in smaller fields. It makes sense I guess as there are less rivals to pass the leader. However, is this really the case? Here are the overall data for UK 5f sprint handicaps:

Runners in race	Front Runners	Wins	SR%
6 to 8	1214	264	21.7
9 to 11	1205	223	18.5
12 to 14	624	106	17.0
15+	407	44	10.8

The stats back up the basic theory, but a 17% win rate for early leaders/front runners in 12 to 14 runner 5f turf handicaps is a strong performance, especially when you

take into account the likely prices of such runners. Hence, one could legitimately argue that the best front running value lies in the 12-14 runner range.

Best performing 5f handicap tracks for hold up horses

Of course, early leader/front runner stats are not the whole story when trying to build up a 'pace' picture of each course. We need to look at the stats at the other end of the scale, too – those for hold up horses. Firstly, let's take a look at the 5f courses that offer hold up horses the best strike rates:

Course	Hold up horses	Wins	SR%	P/L SP	IV
Yarmouth	195	27	13.8	-33.04	1.16
Bath	332	41	12.3	-9.5	1.1
Brighton	258	30	11.6	-68.97	0.89
Newbury	99	9	9.1	-31.92	0.82
Salisbury	66	6	9.1	-23.5	0.8
Leicester	178	16	9	-51.87	0.79
Carlisle	192	17	8.9	-55.25	0.82

Interestingly you would expect these courses to match those that have the poorest stats for early leaders/front runners (see above). However, only Yarmouth appears in both groups. Hence the importance of not just looking at the 'led' data in order to appreciate pace biases at particular courses.

More materially, perhaps, all courses are firmly negative at SP, and most have an impact value of less than 1, meaning such types are less likely to win than horses with other run styles (1 meaning the same likelihood).

Worst performing 5f handicap tracks for hold up horses

Now a look at those courses with the worst strike rates for hold up horses:

Course	Hold up horses	Wins	SR%	P/L SP	IV
Chepstow	187	10	5.3	-104.42	0.5
Musselburgh	746	39	5.2	-346.17	0.5
Ripon	200	8	4	-122.42	0.38
Redcar	307	12	3.9	-200.92	0.41
Catterick	473	18	3.8	-312.17	0.4
Epsom	113	3	2.7	-98.25	0.36
Chester	194	4	2.1	-160.5	0.2

Chester, Catterick and Epsom appear in this table – courses that appeared in the top 5 for front runners. However, once again the overall correlation between good courses for front runners / poor courses for hold up horses is not as strong as one might expect.

What can be said with a degree of confidence is that these tracks are graveyards for hold up horses and such runners make abject bets in the main.

Summing Up Part 1

So how should we use the data discussed in part one of this report? There are numerous ways to do this, some of which I will elaborate upon later. Ultimately however, it is important to appreciate the differences between each course in 5f handicaps, especially their configuration and favoured run styles, points which should inform your betting when you decide to use pace data as part of your betting strategy.

For example, if you feel you have found two 'nailed on' front runners in two different 5f handicaps, at say Chester and Yarmouth, you need to appreciate that whoever front runs in the Chester race, has, according to past data, over three times more chance of winning than your Yarmouth trailblazer. Of course, your 'nailed on' front runner might not actually lead early (missing the break, for instance) but that is not really the point I am trying to make!

I hope you have found part one interesting and potentially useful from a betting perspective. If you have yet to use the pace data on geegeez.co.uk, I hope I have sown some seeds of interest and that you may start to think about how to incorporate pace handicapping into your betting armoury.

In part one, we looked at pace in 5-furlong handicaps, focusing on the running style bias angle. The figures clearly showed a huge difference between the front running chances of horses depending on which 5f course at which it was running. In this second part, we will revisit the course angle and aim to offer a more complete picture.

To recap from the first part, when I talk about *pace* my main focus is the early pace in a race and the position horses take up early on. The Geegeez website splits pace data into four groups - Led, Prominent, Mid Division and Held Up. These groups are assigned numerical values – led gets 4 points, prominent 3, mid division 2 and held up 1. On each Geegeez racecard these figures are assigned to every horse in the race going back four UK or Irish runs.

5f Course Pace Averages

We can use these numerical figures to create course and distance pace averages. I have done this by adding up the pace scores of all the winners at a particular course and dividing it by the total number of races. The higher the average score, the more biased the course and distance is to horses that lead early or race close to the pace. Here are the five-furlong handicap pace averages for all turf courses in the UK.

Course	5f pace average	5f Pace Rank
Lingfield (turf)	3.33	1
Chester	3.3	2
Epsom	3	3
Catterick	2.97	4
Ripon	2.97	5
Redcar	2.88	6
Chepstow	2.86	7
Hamilton	2.85	8
Nottingham	2.84	9
Thirsk	2.82	10
Windsor	2.78	11

Musselburgh	2.77	12
Newbury	2.73	13
Beverley	2.72	14
Leicester	2.72	15
Pontefract	2.69	16
Goodwood	2.64	17
Ayr	2.63	18
Newmarket	2.58	19
Haydock	2.57	20
Wetherby	2.56	21
Bath	2.54	22
Doncaster	2.51	23
Salisbury	2.5	24
Sandown	2.5	25
Brighton	2.49	26
Carlisle	2.49	27
York	2.47	28
Ffos Las	2.38	29
Yarmouth	2.24	30
Ascot	2.24	31

Chester Focus

Lingfield (turf) tops the list, but in truth they have very few 5f handicaps so we perhaps ought to take this figure with the proverbial pinch of salt. Chester comes next which is no surprise based on the stats from the previous chapter. In that chapter, Chester had exceptional winning percentages for front runners and very poor percentages for hold up horses. A 3.3 pace average is huge, so let us look at Chester 5f in more detail.

Running style Chester 5f	Wins	Runners	Strike rate (%)	IV
Led	31	88	35.23	3.38
Prominent	21	194	10.82	1.04
Mid Division	5	109	4.59	0.44
Held Up	4	194	2.06	0.20

As can be seen, 52 of 61 Chester races have been won by horses that have either led or raced prominently. Essentially these figures indicate that the winner is almost six times more likely to be racing in the front half of the pack early on, than the back half.

Catterick Focus

Epsom is third on the list but they have only had 25 races so, as with Lingfield turf, the data are limited. Let us instead look at fourth-placed Catterick. Catterick have had 145 races so a bigger sample to breakdown:

Running style Catterick 5f	Wins	Runners	Strike rate (%)	IV
Led	47	196	23.98	2.51
Prominent	65	672	9.67	1.00
Mid Division	15	175	8.57	0.93
Held Up	18	473	3.81	0.4

The stats for Catterick are not in Chester's league in terms of pace bias to front/prominent racers, but the tendency is still strong. Front runners especially have a very potent edge. Digging deeper, if we focus on races at Catterick with 12 to 14 runners the pace bias does increase significantly:

Running Style	Wins	Runners	Strike rate (%)	IV
Led	15	66	22.73	2.88
Prominent	22	227	9.69	1.23
Mid Division	5	88	5.68	0.72
Held Up	4	201	1.99	0.25

37 of 46 races were won by early leaders or horses that raced prominent early. The winner is roughly four times more likely to be racing in the front half of the pack early on, than the back half.

Does Going Make A Difference?

At this juncture I decided to dig a little deeper looking to see whether the going made a difference to the overall 5f course pace averages. In the past I have heard two contrasting theories connected with front running horses which would potentially affect the course pace average on a specific type of going:

Theory 1 – horses that lead on softer ground are difficult to peg back because rivals find it harder to accelerate from off the pace on such going;

Theory 2 – horses that lead on firmer ground are likely to get less tired at the front due the faster conditions and this accentuates their front running edge. (Plus, on quicker ground the race is likely to be run in a shorter overall time again meaning the front runner is expending less energy).

Which one is true – or is neither true? If front runners do have a bigger edge under certain going conditions it will push up the overall course pace average.

I decided to split the results into two – races on good or firmer; and races on good to soft or softer. Here are the course pace averages for all 5f handicaps split into these going types:

Going	Course Pace average
Good or firmer	2.72
Good to soft or softer	2.67

As we can see the difference is minimal and not statistically significant. I plan to look at more extremes of going when I have time – looking at soft or heavy versus good to firm or firmer. However, looking at these initial figures, I am not expecting to see a huge variance.

Class in 5f Sprint Handicaps

My final area of research in this chapter is concerned with 'class'. There is an argument, which I believe is a fair one, that the higher the class, the harder it is for horses to lead from start to finish – due to the more competitive nature of the opposition. Hence, at courses that run more higher-class handicaps one might expect their course pace averages to be lower as a result. How to calculate 'class' at a particular course is difficult – do you use class levels, prize money, average Official Ratings across all races? I have decided to use a relatively simplistic approach by creating average class levels for each course by adding the class levels for each race and dividing by how many races there were. Hence, for example, if a course had had

10 class 2 handicaps and 10 class 3 handicaps their class average would be 2.5. Here are the course class averages for 5f handicaps (lowest class averages at the top):

Course	Course Race Class Average	Course Class Rank
Chepstow	5.47	1
Hamilton	5.43	2
Catterick	5.32	3
Brighton	5.26	4
Ffos Las	5.12	5
Beverley	5.11	6
Yarmouth	5.08	7
Bath	5.03	8
Carlisle	5	9
Nottingham	4.96	10
Redcar	4.95	11
Lingfield (turf)	4.92	12
Musselburgh	4.85	13
Ayr	4.77	14
Leicester	4.67	15
Ripon	4.57	16
Wetherby	4.56	17
Pontefract	4.53	18
Salisbury	4.45	19
Windsor	4.44	20
Thirsk	4.09	21
Goodwood	4.04	22
Newbury	4	23

Sandown	4	24
Doncaster	3.85	25
Haydock	3.79	26
Newmarket	3.64	27
Chester	3.02	28
Epsom	2.81	29
York	2.8	30
Ascot	2.62	31

As you would expect, most of the Grade 1 courses are near the bottom of the table. Three of these courses - Ascot, York and Epsom - have the most competitive 5f handicaps in terms of class.

To see if there is a correlation between course pace averages and average course race class I have ranked both lists next to one another, and produced an average rank. For there to be a strong correlation you would expect the majority of the courses to be in similar positions in each column – in other words the higher course 5f pace averages should correlate with the lower course class averages; likewise the lower course pace averages should correlate with the higher course class averages.

Course	Course Class Rank (low>high)	5f Pace Rank	Class / Pace Average
Catterick	3	4	3.5
Chepstow	1	7	4
Hamilton	2	8	5
Lingfield (turf)	12	1	6.5
Redcar	11	6	8.5
Nottingham	10	9	9.5
Beverley	6	14	10
Ripon	16	5	10.5
Musselburgh	13	12	12.5

Brighton	4	26	15
Bath	8	22	15
Leicester	15	15	15
Chester	28	2	15
Windsor	20	11	15.5
Thirsk	21	10	15.5
Ayr	14	18	16
Epsom	29	3	16
Ffos Las	5	29	17
Pontefract	18	16	17
Carlisle	9	27	18
Newbury	23	13	18
Yarmouth	7	30	18.5
Wetherby	17	21	19
Goodwood	22	17	19.5
Salisbury	19	24	21.5
Haydock	26	20	23
Newmarket	27	19	23
Doncaster	25	23	24
Sandown	24	25	24.5
York	30	28	29
Ascot	31	31	31

At both ends of the list, sorted by Class/Pace Average, we have the most valid correlations. For instance, Catterick, Chepstow and Hamilton all strongly favour front-runners and all host a majority of low grade five-furlong handicaps.

Meanwhile, Ascot and York, as well as to a lesser degree Sandown, Doncaster, Newmarket and Haydock, all generally host high class sprint handicaps where the early pace holds up less well.

Recap

In the first two chapters we looked at pace in five-furlong handicaps focusing primarily on courses.

The data suggest that some courses offer a much stronger pace edge than others. However, all the research points to the fact that front runners in 5f handicaps have a definite edge almost regardless of where the race is being run. When I say 'definite edge' perhaps I should clarify that front runners win far more often than statistically one might expect.

To recap, when I talk about *pace* my main focus is the initial pace in a race and positions the horses take up in the opening couple of furlongs. As mentioned before the Geegeez website splits pace data into four groups - Led, Prominent, Mid Division and Held Up.

These groups are assigned numerical values – led gets 4 points, prominent 3, mid division 2 and held up 1. When I used to tip 'back in the day', I created similar pace figures, but used values from 5 to 1, and also used the last six runs rather than the last four. I don't think there will ever be a 'perfect' method for creating pace figures, and I am sure the Geegeez method is better than the vast majority.

Horses on the Geegeez racecard pace tab (data view) have their last four UK/Ire runs highlighted, with the most recent run to the left and each horse has an individual total for their last four runs. Hence the highest last four races pace total a horse could achieve is 16 (four 4s), while the lowest is 4 (four 1s). This is assuming of course that they have had at least four career runs.

Trying to predict the front runner

With such an advantage in 5f handicaps it makes sense to investigate ways of trying to successfully predict the front runner. One starting point would simply be to look at the horse's combined pace figures in the race in question and choose the horse with the highest figure. Let us look at a recent example to help make this idea clearer to the reader. The race was run on the 31st May at Hamilton – it was a 5 furlong handicap with 7 runners. Pre-race the 7 runners had the following pace totals:

Hamilton Park
31-May-2018 14:30 Macroberts LLP Handicap (0-75) (5) 4yo+

Winner: **£5434.00**   Class: **5**   Distance: **5f 7y**   Runners: **7**   Going: **Good to Firm**

| CARD | RESULT | FULL FORM | INSTANT EXPERT | PACE | DRAW | ODDS |

HELD UP	MID DIV	PROMINENT	LED
4-39 (10.26%)	0-13 (0.00%)	8-47 (17.02%)	5-26 (19.23%)
IV: 0.75	IV: 0	IV: 1.25	IV: 1.41
£-17.00	£-13.00	£1.01	£1.00

Going: **Good/Firm** to **Good/Firm**   Runners: **6** to **9**   ○ All ● Hcap

Pace Prediction: Even   Data ● Graphic ○

Pace	Runs	Wins	Places	Win%	Win PL	Place%	EW PL	IV
Led	26	5	13	19.23%	1.00	50.00%	1.76	1.41
Prominent	47	8	17	17.02%	1.01	36.17%	-9.79	1.25
Mid Division	13	0	1	0.00%	-13.00	7.69%	-11.50	0
Held Up	39	4	12	10.26%	-17.00	30.77%	-13.95	0.75

#	Dr	Form		Runner	Trainer	Jockey	LR	2LR	3LR	4LR	Total	Ave	SR	Odds
1	6	5-6130		JACOB'S PILLOW	R Bastiman	Daniel Tudhope	3	3	3	4	13	3.25	50	10/1
2	7	613-21		JABBAROCKIE	E Alston	Rachel Richardson	3	3	4	3	13	3.25	73	15/8
6	1	251441		DAPPER MAN	R G Fell	Tony Hamilton	2	4	3	3	12	3.00	78	6/1
3	3	3920-9		AFRICAN FRIEND	Mrs M Fife	Barry McHugh	2	1	1	3	7	1.75	69	14/1
4	4	269-95		SFUMATO	I Jardine	Jamie Gormley	1	1	1	3	6	1.50	69	11/2
7	5	-14142		HIGHLY FOCUSSED	Mrs A Duffield	Joe Fanning	1	1	1	3	6	1.50	79	6/1
5	2	9-4074		LEXINGTON PLACE	Mrs R Carr	James Sullivan	1	1	1	1	4	1.00	76	6/1

5f sprint pace tab example

One difficulty for predicting the front runner in this particular race was that you had three horses at the top with very close figures. Also none of the runners had led a race early in more than one of their last four starts meaning that they were not 'out and out' front running trail-blazers. As the race panned out, the three most likely front runners took up the first three positions early on: Jabbarockie led narrowly to Jacob's Pillow who in turn raced just ahead of Dapper Man. Hamilton's 5f favours front runners reasonably strongly, as can be seen from the green pace 'blobs' in the image, and not surprisingly perhaps the winner and runner up came from these three.

As we can see, this race panned out in a very similar way to how the pace figures had predicted it would. However, correctly predicting the front runner of the top three rated was clearly not 'a given'. This of course is one of the problems with blindly going for the highest rated pace horse. Having said that, one would expect the highest rated pace horse to lead far more often than the lowest rated pace horse! My aim is to look at this idea in more detail another day.

Last Time Leaders: Did They Lead Again?

For this chapter I am using a slightly more simplistic approach. I am focusing on the most recent race only. To begin with I looked at horses that gained a pace figure of 4 (by leading early) last time out in a 5f handicap to see what pace figure they achieved in their next run. I was hoping of course that a decent percentage led early on next time out. Here are my findings:

Pace figure (next run after leading over 5f LTO)	4	3	2	1
% of runners	42.5%	39.2%	8.3%	10.0%

This is quite encouraging with 42.5% of runners leading on their very next start. In addition less than 20% of them raced midfield or further back in the pack early on. At this juncture, it should be noted that horses that were taken on for the lead last time out scored slightly lower in terms of leading next time (led roughly 34% of the time). These are the horses that gained comments such as 'with leaders', 'disputed lead' etc – for the record these runners still gain a 4 score on geegeez as horses who are contested the lead for these comments.

6f Last Time Leaders: Did They Lead Again?

I then looked at the data for horses that had gained a 4 pace score last time out in 6f handicaps. 6f races are still considered sprints, and the front runner generally has an edge in these races too. However, this edge is less strong than it is over 5f. I was intrigued however to see how the next time out figures panned out – would last time out front runners, lead again? This is what I found:

Pace figure (next run after leading over 6f LTO)	4	3	2	1
% of runners	31.0%	44.4%	12.5%	12.1%

Down to around 1 in 3 who managed to lead next time, although 75% either led or tracked the pace (which I guess can be taken as a positive). The figures for horses that were taken on for the lead last time out again scored lower (just 21% of these runners led next time).

It seems sensible given this initial data to concentrate on 5f handicaps for the remainder of this report. This does not mean we cannot gain a pace edge over other

race distances too, but I feel the front running bias works best over the minimum distance of 5f.

Last Time Hold Up Horses: Next Race Run Style

My next port of call was to look at horses that had gained a pace score last time out in 5f handicaps of 1 – these are the horses that raced at the back of the pack LTO. I was hoping to see that they predominantly raced at the back of the pack early on in their next run, or at least did not lead early very often. This is what I found:

Pace figure (next run after a pace score of 1 LTO over 5f)	4	3	2	1
% of runners	7.9%	35.5%	22.1%	34.5%

Interestingly a pace score of 3 has been achieved the most, although a score of 1 was not far behind. Pleasingly from a research point of view only 8% of runners that were held up at the back LTO scored a 4 and led early on their next start. The stats suggest therefore that horses that gained a 4 pace score LTO in 5f handicaps are over 5 times more likely to lead next time out than horses that gained a 1 pace score.

There are of course many factors that determine how likely a horse is to lead – not just their pace score over their last four runs, or their pace score LTO – but, as I have alluded to earlier, the pace competitiveness of the other runners in the race.

One huge factor that has to be taken into account is the draw at certain courses. If we look at Chester over 5f one can see that it is extremely difficult to lead from a wide draw. In handicaps with 8 or more runners, horses from the top third of the draw have managed to take the early lead just 13% of the time. This drops to a measly 7.5% when there have been 10 or more runners. Chester is not unique in that respect either; Beverley in 5f handicaps (10 runners or more) has seen the top third of the draw lead early just 16% of the time whereas the bottom third of the draw has assumed an early advantage 52% of the time. Thus the draw must be factored in at a number of courses.

Does Leading in a Bigger Field LTO Make a Horse More Likely to Lead?

I looked next at whether leading in a bigger field made it more likely you would lead next time – my theory being that to lead a bigger field would need more early pace than running in a smaller field. I looked at 5f handicaps with 12 runners or more, and it should be noted that if the race had split into more than one group, I chose the overall leader only. However, the figures virtually matched the overall 5f figures as the table below shows:

Pace figure (next run after leading over 5f LTO in a 12+ runner race)	4	3	2	1
% of runners	42.4%	39.8%	7.6%	10.2%

Performance of LTO 'Made All' Winners

My next port of call was looking at horses that had won a 5f handicap LTO by making all the running – these runners earn comments such as 'made all', 'made most', 'made virtually all', etc. My theory was that horses in form that had led LTO were more likely to lead on their very next start.

This time, the data backed up the theory:

Pace figure (next run making all or making most over 5f LTO)	4	3	2	1
% of runners	51.2%	36.8%	4.8%	7.2%

For the first time we exceed the 50% mark in terms of horses that lead.

Perhaps at this point it is worth elaborating on why being able to predict the front runner in 5f handicaps is worth the effort. It has been noted that front runners win more often than they should statistically, but the key point is that they potentially offer huge profits. Now clearly you are never going to be able to predict the front runner all the time, but the higher the percentage of correct predictions you achieve, the greater your chances of making decent long term returns.

Focussing on the most likely leader

Finally in this chapter, I want to offer another approach in terms of trying to predict the front runner in 5f handicaps: by simply focusing on individual horses that traditionally have shown a desire to lead early. Now, this is likely to limit your potential bets considerably but if you were able to create a list of say 25 such horses

you would have a good chance of turning the stats in your favour. Let us look at one such horse, Bosham. At the time of writing (June 1st 2018), Bosham has raced 67 times in his career and has led early in 41 of those races: 61.2% of the time. We can improve upon this by digging a bit deeper into his record: it improves to 63.8% in 5f races; in 5f races in single figure fields (9 or less runners) this improves to 71.4% (from 21 races); in 5f races running round a bend this improves to 76% (from 25 races).

Bosham last raced on the 31st May at Chelmsford over 5f. This race was also a good example of when the Geegeez pace stats for the last four runs have worked perfectly. These were the runners in the race with their pace totals:

Chelmsford
31-May-2018 18:40 totepool Cashback Club At totesport.com Handicap (0-90) (3) 4yo+

Winner: **£12938.00**   Class: **3**   Distance: **5f**   Runners: **9**   Going: **Standard**

| CARD | RESULT | FULL FORM | INSTANT EXPERT | PACE | DRAW | ODDS |

HELD UP	MID DIV	PROMINENT	LED
5-73 (6.85%)	3-47 (6.38%)	8-61 (13.11%)	8-30 (26.67%)
IV: 0.6	IV: 0.56	IV: 1.15	IV: 2.34
£-33.00	£-31.50	£-21.12	£34.38

Going: Standard to Standard   Runners: 9 to 9   All ● Hcap

Pace Prediction: Probable Lone Speed, Possible Contested Speed   Data ● Graphic ○

Pace	Runs	Wins	Places	Win%	Win PL	Place%	EW PL	IV
Led	30	8	19	26.67%	34.38	63.33%	18.02	2.34
Prominent	61	8	24	13.11%	-21.12	39.34%	3.08	1.15
Mid Division	47	3	14	6.38%	-31.50	29.79%	-8.25	0.56
Held Up	73	5	15	6.85%	-33.00	20.55%	-42.57	0.6

#	Dr	Form		Runner	Trainer	Jockey	LR	2LR	3LR	4LR	Total	Ave	SR	Odds
7	4	791127		BOSHAM	M W Easterby	Harrison Shaw	4	4	4	4	16	4.00	89	17/2
3	10	411144		VOLATILE	J Osborne	Dougie Costello	3	3	3	4	13	3.25	89	3/1
8	1	544085		CROSSE FIRE	S Dixon	Kieran O'Neill	3	4	3	3	13	3.25	102	25/1
2	6	774271		ZAC BROWN	C Wallis	David Egan	4	1	3	4	12	3.00	84	4/1
5	5	7110-0		SHOW PALACE	J Candlish	Edward Greatrex	3	1	3	3	10	2.50	68	9/1
4	3	202426		POYLE VINNIE	Mrs R Carr	Jack Garritty	2	1	3	1	7	1.75	71	7/2
1	9	08/8-9		KING OF ROOKS	H Spiller	Fran Berry	1	2	1	2	6	1.50	0	33/1
6	2	121082		SOMETHING LUCKY	M Appleby	Ali Rawlinson	1	1	1	1	4	1.00	98	15/2
9	8	59056-		TOP BOY	D Shaw	Jason Hart	1	1	1	1	4	1.00	66	18/1

Bosham was a very likely leader on a speed-favouring track, and prevailed at 7/1

Bosham looked the most likely front runner having led in each of his last four starts, and so it proved. Of course, if you had looked at his career record this would also have pinpointed him as a likely front runner. Another positive was that he had a decent draw in 4 which meant he was close to the favoured inside rail. As it turned out, Bosham led early and went on to win relatively unchallenged at 7/1. For the

record the joint-second rated pace runner, Crosse Fire, a 16/1 shot, raced in second early on before fading into fourth in the final furlong.

The data in this chapter cements the fact that early pace is a highly significant factor in horseracing, and in 5f handicaps in particular. Geegeez Gold offers users the insight for any race within the Pace tab, and subscribers are strongly encouraged to take some time to get to grips with it. Such time investment is very likely to generate a robust financial return.

The Story So Far…

After hours, actually weeks of number crunching, I am able to share my most recent findings regarding pace in 5f handicaps, *writes Dave Renham*.

In this fourth chapter I have started to look in more detail at the Geegeez pace data focusing for the most part on the last four runs of each horse.

Horses on the Geegeez racecard have pace figures assigned to their last four runs, with the most recent run to the left. To recap the pace figures are split into four groups - Led, Prominent, Mid Division and Held Up. Pace points are given to each group - led gets 4 points, prominent 3, mid division 2 and held up 1. Therefore totals can range between 4 and 16.

My focus for this piece has been 5f handicaps (turf and all weather) with at least 6 runners from 2017. There were 465 such races in total and at present I have manually collated data for 200 of these, from which I will share my initial findings. The plan next month is to complete the research and report back on the results for all the races. Handicaps are generally the best medium for this type of research because one is usually dealing with seasoned campaigners who have raced many times in their careers.

The importance of pace in 5f sprint handicaps

I have noted before that front runners have a significant edge in these short sprints and this is clearly seen from the pace figures of these 200 winners:

Pace figure of winner	4	3	2	1
Win %	25%	43.50%	8%	23.50%
Runner %	13%	40%	13%	34%

As can be seen, 25% of all races have been won by the horse that took the early lead.

Considering front runners made up around 13% of runners in the sample, we can say that front runners have won nearly twice as often as they should (25% versus 13%); this is assuming all horses have an equal chance in each race. Of course, that is not the case generally, but the 13% figure is not going to be too far away from the true chance. For the record, prominent racers provided 40% of all horses so this pace bracket also win slightly more often than 'one would expect'; horses that raced mid-division provided around 13% of all runners so have under-performed statistically, as have hold up horses who provided around 34% of all the runners.

As I have mentioned in previous chapters, with such an advantage in 5f handicaps it makes sense to investigate ways of trying to predict the front runner. In Part Three I looked at the most recent race only and the pace figure gained from it. This time I am

going to look at the performance of the top-rated pace runners using the last four races.

5f sprint handicap performance by pace rank

In each of the 200 races I collated the pace figures for each horse by putting them in order of pace points, then looking to see from which pace position the winner came. I was hoping of course to see a bias towards the top-rated pace horses in terms of number of wins. Here are the findings:

Pace rank	Wins	Races	SR%
1	26	200	13.0
2	21	200	10.5
3	26	200	13.0
4	31	200	15.5
5	23	200	11.5
6	17	200	8.5
7	21	179	11.7
8	10	153	6.5
9	10	127	7.9
10	4	96	4.2
11	7	68	10.3
12	2	48	4.2
13	1	32	3.1
14	1	22	4.5

15+	0	9	0.0

Hence the top-rated pace horse (the one with the most pace points, and the first dot on the graph below) won 13% of the time (26 of the 200 races). On the face of it this does look a little disappointing. It should also be stressed at this point that there may have been 200 races, but due to several of these having joint top-rated pace horses, there were in fact 266 horses that were top- or joint-top ranked.

Strike Rate by Pace Rank

Win Strike Rate vs _Pace Rank_
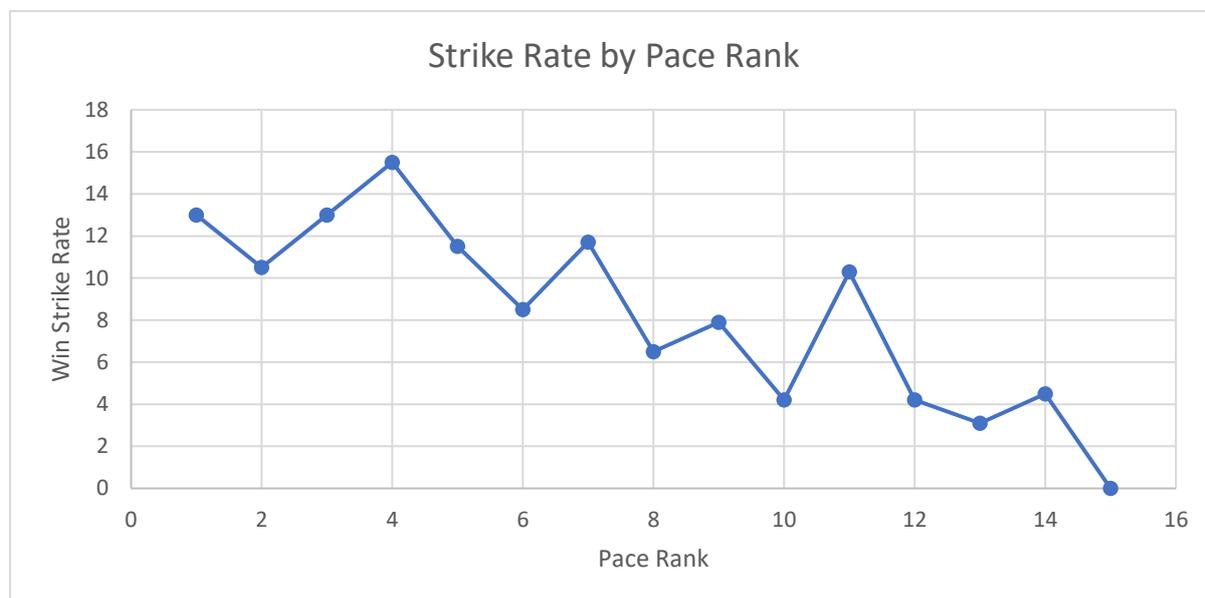
That brings the win strike rate down to under 10%. Before you reach for the Kleenex, I do have some positive news. If you had backed these top-rated pace horses to level stakes, your 266 selections would have yielded a profit to SP. Even better returns would have accrued if you had backed them at Betfair SP – at £10 per bet the profit after commission would have been just under £530. This equates to a return of about 20p in the £. Very satisfactory returns for what is a highly simplistic method.

With a notable difference between the number of winning front-runners and the number of winners with the highest pace rank coming into the race, what these findings indicate once more is that predicting the front runner is far from an exact science. It is clearly not just a case of picking the horse in the race with the most pace points from their last four runs. What the chart does seem to indicate though is that the more points you have the more chance you have of winning.

Run style of the top-rated pace horse

The top-rated pace horse did lead in nearly 40% of the races; the table below shows the run style of the top-rated pace horse in the reviewed races:

Pace Figure	Races	% of horses
4 – Led	105	39.5
3 – Prominent	106	39.8
2 – Midfield	23	8.6
1 – Held up	32	12.0

Almost 80% of top-rated pace horses coming into a race have led or raced up with the pace, which is clearly what one would expect.

However, when I started this research I was hoping to find a method that would predict the front runner at least 50% of the time, if not 60%. Not around 40%! It is interesting to note that in the third chapter I found that horses that had led in a 5f handicap last time out, went on to lead in their next race 42.5% of the time. So perhaps the most recent race is more important than combining the last four when looking at pace figures, though in truth the difference in terms of the sample size is negligible.

Total Pace Score (last four runs) of top-rated pace horse

My next port of call was to look at the actual pace figure gained by the top rated or joint top-rated pace horse. 16 (four pace figures of 4) is the highest pace figure a horse can achieve.

Here are the findings:

4 race total (top rated horses only)	Wins	Runs	SR%
16	2	31	6.5
15	8	78	10.3
14	7	87	8.0
13	5	32	15.6
12	2	32	6.3
11	2	5	40.0
10	0	1	0.0

These figures suggest nothing particularly clear cut at this stage – however, when I have looked at all 465 races hopefully a pattern may start to emerge.

A theory…

Before moving on I would like to discuss a theory. There is a perception that if there are two or more potential front runners in a race, then that race will be set up for a 'closer'. The theory is that there will be a strong battle for the lead where the leaders essentially 'cut each other's throats' – allowing a horse to come from off the pace and win.

I wanted to try and test this theory as best I could. I decided therefore in each race to work out the pace average of the top four rated pace horses. If the theory held any validity, then I expected the record of the top-rated pace horse would be poor when the four horse pace average was higher.

Here are the findings:

Top four rated pace average	Top rated pace runners	Wins	SR%	BSP profit to £10 stakes	ROI%
14 and above	48	3	6.3	– £220	– 45.8
13 to 13.75	77	5	6.5	– £193	– 25.1
12 to 12.75	69	5	7.2	– £232	– 33.6
11 to 11.75	51	7	13.7	+ £363	+ 71.2
9 to 10.75	21	6	28.6	+ £320	+ 152.4

It seems that this theory does hold water, although I appreciate that not all top-rated pace horses lead. Having said that most top-rated pace horses race up with the pace and thus are not coming from 'off the pace' to win. The races where the top four horses averaged 14 or above produced the lowest strike rate and the worst returns. Conversely the races with relatively low averages produced extremely positive returns.

I have also looked at the combined win and placed strike rates to see if they correlate with the win strike rates:

Top four rated pace average	Top rated pace runners	Wins / places	Win/placed SR%
14 and above	48	10	20.8
13 to 13.75	77	19	24.7
12 to 12.75	69	22	31.9
11 to 11.75	51	19	37.3
9 to 10.75	21	12	57.1

It is pleasing to see the win and place strike rates increase as the four-horse pace average decreases – just as the win data showed.

A second theory…

This takes me onto the second theory where there is a perception that if there is just one 'genuine' front runner in the race, that runner has a good chance of getting a 'soft' lead and thus increases its prospects of leading all the way. The table above seems to suggest when there is less general pace in the race, potential front runners have a better chance of winning. However, we cannot be sure that a race with, say, a top four rated pace average of 11 has a sole front runner. Consider the following two scenarios:

Scenario 1: Pace average of top four pace horses = 11

Horse A – 15

Horse B – 10

Horse C – 10

Horse D – 9

Scenario 2: Pace average of top four pace horses = 11

Horse A – 12

Horse B – 12

Horse C – 11

Horse D – 9

One way to test this 'soft lead' theory is to look at the gap between the top-rated pace horse and the second top rated pace horse. Here are these findings looking at the performance of the top-rated pace horses in each case:

Gap between top and 2nd top rated	Top rated pace runners	Wins	SR%	BSP profit to £10 stakes	ROI%
0	126	10	7.9	– £364	–28.9
1	75	4	5.3	– £495	–66.0
2	44	7	15.9	+ £323	+73.4
3	15	4	26.7	+ £525	+350.0
4	5	0	0.0	– £50	–100.0
5	1	1	100.0	+ £85	+850.0

This once again is not a perfect test because the top-rated pace runner does not always lead! However, what it does seem to suggest is that the top-rated pace horses have done extremely well when there has been a gap of at least 2 points between them and the second rated.

I appreciate the data set is relatively small, but nonetheless the signs are good. I did also look at the win and placed data here and the correlation was less strong – the problem perhaps is the data set for a gap of 3 or more is so small. I will revisit this after looking at all the races and share that data. An alternative theory for lack of place correlation is that trail blazers are often binary types, who either win or drop out completely.

For the final part of this chapter I want to look at the profile of the 200 winners in terms of pace. I initially looked at their four race pace totals and noted that 128 winners (64% strike rate) had a total of 10 to 16 while 72 winners (36% strike rate) had a total of 4 to 9. It seems therefore at first glance that the horses with higher pace ratings have outperformed those with lower ones. However, we can all manipulate data and hence we need to know how many runners were in each of the two pace brackets. Encouragingly, we have a relatively even split as the table shows:

4 race totals for all runners	Win SR%	% of actual runners in all races
Between 4 and 9	36%	48.5%
Between 10 and 16	64%	51.5%

To clarify this means that horses with a pace total of 10 or higher (from their last four runs) won 64% of all races from 51.5% of the total runners. Hence, as we would have hoped, horses with higher pace ratings do perform better in 5f handicaps than lower pace rated horses. In reality if 'pace' made no difference whatsoever then these horses should be winning 51.5% of races not 64%; but they are roughly 1.25 times more likely to win than statistically they ought.

From what we've seen so far, we can make the following observations:

1. Front runners have a huge edge in 5f handicaps

2. Top pace rated runners (using the last four races) have a relatively low strike rate but have shown a 20% profit to BSP

3. Top pace rated runners have taken the early lead around 40% of the time (led or raced prominently in just under 80% of races)

4. Top pace rated runners have a much better strike rate in races where the top four pace rated runners produce an average of less than 12

5. Top pace rated runners have a much better strike rate in races where they have a 2 point or bigger gap to the second pace rated horse

6. Horses pace rated 10 win almost twice as often as those rated 9 or lower

This is the fifth and final part of a report looking at pace bias in 5f handicaps, *writes Dave Renham*.

In previous chapters I have looked at a variety of angles including examining courses, as some offer a stronger front running bias than others; I have looked at the Geegeez pace ratings and how top-rated pace horses have performed in terms of win percentages and profit/losses; and I have also looked at predicting pace.

The Actual Front Runner

In this article I am going to focus solely on the *actual early leader (front runner)* of each race to see whether there are any patterns or decent angles that can be gleaned from the data. I have looked at 200 races once again focusing on handicap races with 6 or more runners. I have not used races where it was unclear who led early (this happens roughly 3 times in every 100 races).

At this point, it is important to note that I term the front runner or early leader to be the horse that takes the lead within the first furlong. If a horse has led for 50 yards and then is overtaken I assume the front runner to be the horse that took the lead after 50 yards, not the horse that led just for 50 yards. For the record in most sprint handicaps the horse that takes the lead in the opening strides is still leading after a furlong.

My first idea was to look at the leaders and what their position had been in the Geegeez pace ratings. To recap, horses on the Geegeez pace-card have their last four runs highlighted with the most recent run to the left and each horse has an individual total for their last four runs. 16 is the maximum score and 4 the minimum (this is assuming they have had at least 4 career runs).

To begin with, then, I decided to split the runners into "thirds" like I have done in the past for draw bias. Hence in a 15-runner race, horse whose total pace rated 1 to 5 would lie in the top "third" of the pace ratings, those rated 6 to 10 in the middle "third", and those rated 11 to 15 in the bottom "third".

It should also be noted that I also adjust the pace positions when there are non-runners – for example in a 10-runner race if the 3rd highest pace rated horse is a non-runner, then the horse rated 4th becomes 3rd, 5th rated becomes 4th rated, etc. Here then are the figures relating to where the leaders/front runners came from in the pace ratings broken into 'thirds':

Top third of pace ratings	Middle third of pace ratings	Bottom third of pace ratings
69.5%	24%	6.5%

As you can see the early leader came from the top 'third' of the pace ratings roughly 7 races in 10 and, in addition, horses from the bottom third of the pace ratings took the early lead just once in every 15 races on average.

This is a positive result – perhaps the result we might expect, but it is good to see that the Geegeez pace ratings clearly help in terms of pinpointing the area where we are most likely to find the actual front runner. It is also worth noting that in races of 12 or more runners the early leader came from the top third of the pace ratings just under 75% of the time; in races of 8 runners or less this figure dropped to 64%.

This suggests, albeit with relatively limited data, that using the pace ratings to try and find the front runner works best in bigger fields.

To add some more 'meat to the bones' I have split the pace ratings into halves rather than thirds and the table below shows the breakdown:

Top half of pace ratings	Bottom half of pace ratings
85.5%	14.5%

Hence, when you are trying to predict the front runner in a 5f handicap, the Geegeez pace ratings look the best starting point. If you can essentially narrow the potential front running candidates down to 50% of the field or less, you are giving yourself a much better chance of predicting the early leader.

As I have mentioned in previous articles, front runners in sprints over this minimum trip do have a huge edge – in this sample 22.5% of all races were won by the early leader and 51.5% of front runners made the first three. Hence the more often we can successfully predict the front runner the better.

In terms of the 200 early leaders in this sample, I next looked at their last two races and combining these last two pace figures (maximum of 8). Here are the findings:

Pace total (last two runs)	Number of races 'led'
8	47
7	44
6	50
5	37
4	16
3	2
2	4

Thus, 70.5% of all leaders had scored 6, 7 or 8 points in total when combining their last two pace scores. This data has a similar pattern to the top 'third' data for the last four races, as one would expect.

Just imagine if you were able to predict the front runner in every race - you would make a huge profit. Indeed, if you could achieve this correct prediction around 70% of the time I would estimate you would still make very healthy profit; remembering even if the horse you picked as the front runner does not actually lead, it can still win!

In the previous chapter, I noted that just under 40% of top pace rated horses did actually lead; I did not though look at horses that were 2nd or 3rd pace rated. This time I have, and in 146 of the 200 races (73%) the early leader had been in the top three of the Geegeez pace ratings.

As I hope you can see, the Geegeez pace ratings do give an excellent indication of pace set up in a race. Whether you use the top third method; the last two runs method, or the top 3 in the ratings method.

In Play Options

There are of course other punting options in terms of front running ideas. One such idea is to trade the front runner 'in play'. The argument for this approach is logical – front runners lose around 3 and a half times more often than they win so why not trade? Horses that lead in 5f handicaps generally contract in price so why not try to make the most of this fact? Now you could trade to achieve a free bet – eg back the horse at 11.0 pre-race and lay in play at 6.0. If the horses loses you get your stake back; if it wins you have a winning bet at 5/1.

Another option for traders is 'dobbing' - dobbing is a term I came across a few years back – I am not sure where it originates from, but basically 'DOB' means 'double or bust'. Essentially if our bet/trade is successful, we double our original stake, if it is not successful we 'bust' or lose our stake. It may be easier to explain by giving you an example:

Let us imagine you back a horse pre-race at 8.0 for £10; in order to create a potential DOB you try and lay at half the odds for double the stake – so a lay at 4.0 for £20. If the horse hits 4.0 or lower in running, your lay bet will be matched and regardless of the result you will win £10 (less commission). Here is the simple maths behind the two potential winning outcomes - if the horse goes onto win the race you get £70 returned from the 'back' part of the bet; you lose £60 on the 'lay' part of the bet giving you that £10 profit; if the horse does not go onto win, you lose your £10 stake from the 'back' bet, but gain £20 from the lay stake – again giving you a £10 profit. Naturally, if the lay part of the bet is not matched you will lose your £10.

There are other 'in play' trading methods/options/ideas when it comes to front runners, but I don't want to get bogged down looking at too many of these. Suffice to say, front runners tend to contract in price; some see their price drop dramatically.

At what point is the front runner overtaken?

In relation to this, one thing I wanted to look at was at what point was the early front runner overtaken? The longer a leader leads over 5f, in general the shorter the price will become 'in play'. Here are my findings:

At what point was the front runner overtaken?	% of leaders
Not overtaken (led all the way)	22.5
Overtaken in final half furlong (within 110 yds of the finish)	14
Overtaken between the furlong pole and half a furlong from the finish	19
Overtaken 1 ½ furlongs from the finish to the furlong pole	23
Overtaken between the 2-furlong pole and 1 ½ furlongs from the finish	13
Overtaken before the 2-furlong pole	8.5

This should make pleasing reading for would be 'in play traders' – over 55% of front runners are still leading at the furlong pole; and nearly 80% are leading 1.5 furlongs from the finish. There will be many of you reading this who have seen your horse lead at the furlong pole only to get swallowed up or beaten close home; perhaps now you have a trading option/idea which could potentially take away some of that pain in the future!

Actual front runners by odds

Finally, I looked at the prices of the horses that led early. Here is a breakdown:

- 61 leaders started 5/1 or less
- 52 leaders started between 11/2 and 9/1
- 51 leaders started between 10/1 and 16/1
- 36 leaders started 18/1 or bigger

As you can see there was a relatively even split in odds terms. Again, this is almost certainly good news for 'in play' traders as there is excellent scope for trading front runners that start at bigger prices. Indeed, of those bigger priced runners (18/1 or bigger) 17 of the 36 were still leading at the furlong pole (a handful of these went on to win).

Final Thoughts

I hope you have found this report interesting and it has given you further food for thought.

Pace is a vital component in all races, especially shorter sprint handicaps, and it is an element which is still overlooked by the majority of the betting public. This means it is an excellent opportunity for those who do take the time to understand it and to deploy it in their betting.

- Dave Renham, geegeez.co.uk writer/researcher