



MAFL Funds : Season 2007

Where Statistics Meets Leather and Grass

27 September 2007

Season 2007, Number 26 (Grand Final)

In this Edition of the newsletter:

- Wager and tips for the Grand Final
- Margins of Victory
- How Big a Lead Do You Need?

At Last



Geelong FC (Joined 1897)

Season 2007

Position: 1st

Won 18, Lost 4

For/Against: 2,542/1,664

Finals

QF: def Kangaroos 156-50

PF: def Collingwood 92-87

Overall Finals Record

Played 94, Won 39, Lost 54, Drawn 1

Grand Final Appearances

1995: lost to Carlton

1994: lost to West Coast

1992: lost to West Coast

1989: lost to Hawthorn

1967: lost to Richmond

1963: defeated Hawthorn

1953: lost to Collingwood

1952: defeated Collingwood

1951: defeated Essendon

1937: defeated Collingwood

1931: defeated Richmond

1930: lost to Collingwood

1925: defeated Collingwood

6 Premierships

Geelong
v
Port Adelaide
MCG
29th September, 2:30pm

Head-to-Head
Gee \$1.38 / PA \$2.90
(Geelong 66-73%)

Line Betting
Geelong -17½ pts

Heritage Fund Bet
11.24% (9.09%)
on Port Adelaide

Alpha Fund Bet
-

Beta Fund Bet
-

Line Fund Bet
-



Port Adelaide (Joined 1997)

Season 2007

Position: 2nd

Won 15, Lost 7

For/Against: 2,314/2,038

Finals

QF: def West Coast 68-65

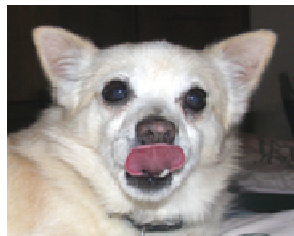
PF: def Kangaroos 133-46

Overall Finals Record

Played 16, Won 8, Lost 8, Drawn 0

Grand Final Appearances

2004: defeated Brisbane Lions



Chi says:

“Yum, I like cats!”

Geelong by 15

Quila's Tip

Geelong by 28

1 Premiership

- One bet this week of around 11¼% of (Notional Initial) Heritage Funds.

Both Dogs have put long-standing matters of species aside and thrown their support firmly behind the Cats this weekend. (Chi, in particular you'd probably have thought to have much more affinity with a team that's vaguely associated with lamp-posts. Actually, now I think about it, he treats cats and lamp-posts with much the same attitude, so maybe it's not as surprising as it might appear).

Quila, though, is much more confident about the Cats' chances than is Chi: she thinks the Cats will cover the 17½ points spread on offer but Chi doesn't. I guess at least one of them will get a line bet right for a change.

Any Port (and the Storm?)

This time last year, Investors had the disappointment of watching a Grand Final without any financial interest in the outcome to nudge their allegiance one way or the other. This year, though, the Heritage Fund has made sure that all Investors care deeply about who wins on Saturday by making its equal third-largest bet of the season on Port Adelaide.

It's only the second time this season that the Heritage Fund has wagered on Port and only the fifth time that any of the Funds have entrusted them with our hard-earned. A bet on Port also means that we've managed to go the entire season without wagering so much as a stray dollar on the Cats. (Last year we managed two bets for two losses on the Eagles, so this isn't necessarily such a bad thing).

Here's the run sheet for the weekend:

Grand Final Wagers

	Team Wagered On	Bet Size (Init) ¹	Bet Size (Cur) ²	Price Obtained	Points Start	Opponent
Heritage	Port Adelaide	11.24%	9.09%	\$2.90	-	Geelong

1 Bets as a proportion of initial (notional) funds

2 Bets as a proportion of current funds

With only the Heritage Fund investing this weekend, I can now declare the closing prices for the Alpha, Beta and Line Funds as follows:

- Alpha Fund \$1.1468
- Beta Fund \$1.0480
- Line Fund \$0.9983 (with apologies to Strategy D Investors).

Margins of Victory

Let's hope we're in for a close game this weekend (or, I guess, if you're an Investor, that Port win by 30 goals). We've certainly been spoiled in the last two years with both of the Eagles v Swans Grand Finals decided by less than 1 goal, a fact which is all the more amazing when you consider there's only been six such Grand Finals since 1950 (seven if you include the 1977 draw).

Margin of Victory

Year	1-5	6-11	12-17	18-23	24-29	30-35	36-41	42+	Ave
1898 - 1909	5	1	2	0	2	1	0	1	15.3
1910 - 1919	1	2	3	0	2	2	0	0	18.0
1920 - 1929	1	2	3	0	1	1	0	1	21.1
1930 - 1939	0	2	1	2	0	2	1	2	27.1
1940 - 1949	2	0	1	0	2	0	2	3	34.5
1950 - 1959	0	1	1	1	1	0	2	4	37.5
1960 - 1969	3	1	0	0	1	2	0	3	24.9
1970 - 1979	1	2	0	1	2	2	1	1	25.0
1980 - 1989	0	1	0	2	1	1	0	5	48.1
1990 - 1999	0	0	0	0	1	3	0	6	45.8
2000 - 2006	2	1	0	0	1	0	1	2	27.1
Total	15	13	11	6	14	14	7	28	29.4
% of Total	14%	12%	10%	6%	13%	13%	6%	26%	

Errata:
In the previous newsletter I claimed that there'd only been one drawn GF. There have, of course, been two: 1948 and 1977.

Expecting yet another cliffhanger is, though, to thumb our noses at history: never before have 3 successive Grand Finals been decided by less than 1 goal and only twice before have 3 successive Grand Finals been decided by less than 2 goals, the most recent such trio being the Grand Finals of 1966, 1967 and 1968.

(Here's a bit of margin trivia: no Grand Final has ever been won by 8, 16, 19, 21, 22 or 23 points.)

How Big a Lead Do You Need?

It'd be nice to finish the season on a winning note for Investors. So, you might ask, how big a lead do Port need to have for us to start feeling confident?

Firstly, let's take a look at the margins that winning teams have had at the end of each quarter in the 108 Grand Finals (excluding the draws of 1948 and 1977) there's been so far.

Margins at End of Q1

Year	Winner Trails By...									Winner Leads By ...									Max Trail	Max Lead
	42+	36-41	30-35	24-29	18-23	12-17	6-11	1-5	0	1-5	6-11	12-17	18-23	24-29	30-35	36-41	42+			
1898 - 1909	0	0	0	0	0	1	0	1	1	15	3	2	0	0	0	0	14	17		
1910 - 1919	0	0	0	0	0	0	0	3	0	4	1	1	3	0	0	0	4	23		
1920 - 1929	0	0	0	0	0	0	1	2	1	2	0	1	1	1	0	0	6	27		
1930 - 1939	0	0	0	0	2	1	0	0	0	2	2	0	1	0	0	0	18	21		
1940 - 1949	0	0	0	0	0	0	2	1	0	4	2	1	0	0	2	0	7	35		
1950 - 1959	0	0	0	0	0	2	0	1	0	2	0	0	4	1	0	0	17	29		
1960 - 1969	0	0	0	0	0	0	1	1	0	2	2	0	0	1	1	0	10	34		
1970 - 1979	0	0	0	1	0	0	1	0	0	4	3	2	2	0	0	0	29	19		
1980 - 1989	0	0	0	0	1	0	0	2	0	1	1	1	2	1	0	1	21	40		
1990 - 1999	0	0	0	0	1	1	2	1	0	1	0	2	0	0	1	0	18	30		
2000 - 2006	0	0	0	0	0	0	1	0	0	2	1	3	0	0	0	0	6	16		
Total	0	0	0	1	4	5	8	12	2	39	15	13	13	4	4	1	0	40		
% of Total	0.0%	0.0%	0.0%	0.8%	3.3%	4.1%	6.6%	9.9%	1.7%	32.2%	12.4%	10.7%	10.7%	3.3%	3.3%	0.8%	0.0%			

Margins at End of Q2

Year	Winner Trails By...									Winner Leads By ...									Max Trail	Max Lead
	42+	36-41	30-35	24-29	18-23	12-17	6-11	1-5	0	1-5	6-11	12-17	18-23	24-29	30-35	36-41	42+			
1898 - 1909	0	0	0	0	0	0	0	2	2	3	2	0	1	1	1	0	2	33		
1910 - 1919	0	0	0	0	0	1	0	0	0	1	1	4	1	1	1	0	16	30		
1920 - 1929	0	0	0	0	0	1	0	2	0	0	2	2	1	1	0	0	13	27		
1930 - 1939	0	0	0	0	1	0	0	1	0	1	2	1	2	2	0	0	21	28		
1940 - 1949	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	0	11	57		
1950 - 1959	0	0	0	0	0	0	0	1	0	2	2	2	2	0	1	0	4	35		
1960 - 1969	0	0	0	0	0	0	1	2	0	0	1	4	1	1	0	0	8	29		
1970 - 1979	1	0	0	0	0	0	0	2	0	1	1	0	3	1	0	0	1	44		
1980 - 1989	0	0	0	1	0	0	1	0	0	1	1	0	2	0	0	1	3	25		
1990 - 1999	0	0	0	1	0	2	0	0	0	1	1	0	2	0	1	2	0	24		
2000 - 2006	0	0	0	0	0	1	0	1	0	0	1	0	1	1	0	1	1	14		
Total	1	0	0	2	1	5	3	12	2	11	15	14	17	9	5	4	7	44		
% of Total	0.9%	0.0%	0.0%	1.9%	0.9%	4.6%	2.8%	11.1%	1.9%	10.2%	13.9%	13.0%	15.7%	8.3%	4.6%	3.7%	6.5%			

Margins at End of Q3

Year	Winner Trails By...									Winner Leads By ...									Max Trail	Max Lead
	42+	36-41	30-35	24-29	18-23	12-17	6-11	1-5	0	1-5	6-11	12-17	18-23	24-29	30-35	36-41	42+			
1898 - 1909	0	0	0	0	0	0	1	0	0	1	3	6	1	0	0	0	7	19		
1910 - 1919	0	0	0	0	0	1	0	0	0	2	1	1	2	3	0	0	12	28		
1920 - 1929	0	0	0	0	0	0	0	1	0	0	2	3	0	2	0	0	2	45		
1930 - 1939	0	0	0	0	0	0	0	1	0	2	2	1	1	1	1	1	0	60		
1940 - 1949	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	0	5	64		
1950 - 1959	0	0	0	0	0	0	0	0	0	2	0	1	2	2	3	0	-	40		
1960 - 1969	0	0	0	0	0	0	0	1	0	2	3	0	1	1	0	1	1	4		
1970 - 1979	0	0	0	0	1	1	0	0	0	0	1	0	3	1	1	1	1	20		
1980 - 1989	0	0	0	0	1	0	1	0	0	0	0	2	0	0	1	1	4	23		
1990 - 1999	0	0	0	0	0	0	0	0	0	1	2	1	0	1	0	2	3	-		
2000 - 2006	0	0	0	0	0	0	0	0	0	2	1	2	0	0	1	0	1	-		
Total	0	0	0	0	2	2	3	3	1	8	18	17	10	11	7	9	17	23		
% of Total	0.0%	0.0%	0.0%	0.0%	1.9%	1.9%	2.8%	2.8%	0.9%	7.4%	16.7%	15.7%	9.3%	10.2%	6.5%	8.3%	15.7%			

Close inspection of the block that's headed *Margins at End of Q1* reveals that:

- The most common situation at the end of Q1 is for the eventual winner to lead by 1 to 5 points. This has been the case in almost one-third of all Grand Finals.
- The winning team has been level or trailed at the end of Q1 in only about one-quarter of all Grand Finals
- The largest ever Q1 deficit that has been overcome is 29 points (in the famous 1970 GF when Carlton defeated Collingwood 111 to 101)
- Since 1980, no team has won after trailing by more than 21 points at the first change

The next block, headed *Margins at End of Q2* contains the following facts:

- The eventual winner has led by between 6 and 23 points in over 40% of all Grand Finals.
- The winning team has been level or trailed at the end of Q2 in just less than one-quarter of all Grand Finals
- The largest ever Q2 deficit that has been overcome is 44 points (once again in the 1970 GF)
- Since 1980, no team has won after trailing by more than 25 points at the half

Finally, the third block, headed *Margins at End of Q3* shows that:

- The eventual winner has led by between 6 and 29 points in over one-half of all Grand Finals.
- The winning team has been level or trailed at the end of Q3 in only about 10% of all Grand Finals
- The largest ever Q3 deficit that has been overcome is 23 points (in the 1984 GF when Essendon kicked 9.6 in the final term to sink Hawthorn). This is also, in fact, the most recent occasion on which a team has won after trailing by any margin at three-quarter time. Clearly then, a lead - any lead - at three-quarter time is a good lead in the Granny.

Given that no team in the history of the competition has won after trailing by 4 goals or more at three-quarter time, let's define any GF where the lead is 4 goals or more at three-quarter time as a Foregone Conclusion (FC).

It's interesting to note that, whilst the overall FC rate is just over 40% across the 108 Grand Finals, the 1980s and 1990s produced FCs at 1½ times the normal rate: 12 in 20 Grand Finals, with an average margin of victory approaching 8 goals. Truly a depressing era for those who like their Grand Finals to be tightly contested. Fortunately, the last seven years' results have restored the balance a little by producing just 2 FCs; the maximum lead at three-quarter time in the other 5 GFs has been just 17 points.

So, in summary then, we want Port to lead at every change, but especially at the end of the 3rd. Well there's an insight ... mind you don't step in it.

Really, we haven't yet answered the question: how big a lead do we need? Let's look at the data from a different viewpoint. This time we'll consider the fate - win or lose - of teams with varying sized leads at the end of each quarter.

Leads at End of Q1

Year	Size of Lead ...																
	0		1-5		6-11		12-17		18-23		24-29		30-35		36-41		42+
	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	
1898 - 1909	1	15	1	3	0	2	1	0	0	0	0	0	0	0	0	0	
1910 - 1919	0	4	3	1	0	1	0	3	0	0	0	0	0	0	0	0	
1920 - 1929	1	2	2	0	1	1	0	1	0	1	0	0	0	0	0	0	
1930 - 1939	0	2	0	2	0	0	1	1	2	0	0	0	0	0	0	0	
1940 - 1949	0	4	1	2	2	1	0	0	0	0	2	0	0	0	0	0	
1950 - 1959	0	2	1	0	0	0	2	4	0	1	0	0	0	0	0	0	
1960 - 1969	0	2	1	2	1	0	0	0	0	1	0	1	0	0	0	0	
1970 - 1979	0	4	0	3	1	2	0	2	0	1	0	0	0	0	0	0	
1980 - 1989	0	1	2	1	0	1	0	2	1	1	0	0	0	1	0	0	
1990 - 1999	0	1	1	0	2	2	1	0	1	0	0	1	0	0	0	0	
2000 - 2006	0	2	0	1	1	3	0	0	0	0	0	0	0	0	0	0	
Total	2	39	12	15	8	13	5	13	4	4	1	4	0	1	0	0	
% Win Given Lead			76.5%		65.2%		72.2%		76.5%		80.0%		100%		100%	100%	
% Win Given Lead or Greater			74.8%		73.5%		77.8%		81.5%		90.0%		100%		100%	100%	

This table shows us that, of the 51 teams that have led by between 1 and 5 points at the end of the first quarter, 39 of them (or 77%) have gone on to win. This is, a bit oddly, a higher proportion than that for teams leading by between 6 and 17 points at the end of Q1, and the same proportion as that for teams leading by 18 to 23 points. Only 1 team that has led by 24 points or more at quarter-time has subsequently lost (there's that 1970 GF again).

Leads at End of Q2

Year	Size of Lead ...																
	0		1-5		6-11		12-17		18-23		24-29		30-35		36-41		42+
	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	
1898 - 1909	2	3	2	2	0	0	0	1	0	1	0	1	0	0	0	0	
1910 - 1919	0	1	0	1	0	4	1	1	0	1	0	1	0	0	0	0	
1920 - 1929	0	0	2	2	0	2	1	1	0	1	0	0	0	0	0	0	
1930 - 1939	0	1	1	2	0	1	0	2	1	2	0	0	0	0	0	0	
1940 - 1949	0	1	1	1	1	1	0	1	0	1	0	1	0	0	0	2	
1950 - 1959	0	2	1	2	0	2	0	2	0	0	0	1	0	0	0	0	
1960 - 1969	0	0	2	1	1	4	0	1	0	1	0	0	0	0	0	0	
1970 - 1979	0	1	2	1	0	0	0	3	0	1	0	0	0	0	0	1	
1980 - 1989	0	1	0	1	1	0	0	2	0	0	1	0	0	1	0	3	
1990 - 1999	0	1	0	1	0	0	2	2	0	0	1	1	0	2	0	0	
2000 - 2006	0	0	1	1	0	0	1	1	0	1	0	0	0	1	0	1	
Total	2	11	12	15	3	14	5	17	1	9	2	5	0	4	0	7	
% Win Given Lead			47.8%		83.3%		73.7%		94.4%		81.8%		100%		100%	87.5%	
% Win Given Lead or Greater			77.4%		85.5%		86.2%		91.3%		89.3%		94.1%		91.7%	87.5%	

Leads at End of Q3

Year	Size of Lead ...																
	0		1-5		6-11		12-17		18-23		24-29		30-35		36-41		42+
	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	Wins	Loses	
1898 - 1909	0	1	0	3	1	6	0	1	0	0	0	0	0	0	0	0	
1910 - 1919	0	2	0	1	0	1	1	2	0	3	0	0	0	0	0	0	
1920 - 1929	0	0	1	2	0	3	0	0	0	2	0	0	0	0	0	1	
1930 - 1939	1	0	0	2	0	2	0	1	0	1	0	1	0	1	0	1	
1940 - 1949	0	0	1	1	1	0	0	1	0	0	0	1	0	0	0	5	
1950 - 1959	0	0	0	2	0	0	0	1	0	2	0	2	0	3	0	0	
1960 - 1969	0	2	1	3	0	0	0	1	0	1	0	0	0	1	0	1	
1970 - 1979	0	0	0	1	0	0	1	3	1	1	0	1	0	1	0	1	
1980 - 1989	0	0	0	0	1	2	0	0	1	0	0	1	0	1	0	4	
1990 - 1999	0	1	0	2	0	1	0	0	0	1	0	0	0	2	0	3	
2000 - 2006	0	2	0	1	0	2	0	0	0	0	0	1	0	0	0	1	
Total	1	8	3	18	3	17	2	10	2	11	0	7	0	9	0	17	
% Win Given Lead			72.7%		85.7%		89.5%		83.3%		100%		100%		100%	100%	
% Win Given Lead or Greater			90.7%		92.7%		94.7%		96.4%		100%		100%		100%	100%	

From the block that's headed *Leads at End of Q2* we find that:

- teams that have led by 6 points or more at half-time have gone on to win 86% of the time
- only one of the 17 teams that have led by 30 points or more at half-time has gone on to lose (guess who?)

Finally, the block that's headed *Leads at End of Q3* shows that:

- only 10 of the 107 teams that have led at three-quarter time by any margin have gone on to lose
- only 7 of the 96 teams (or about 8%) that have led by 6 points or more at the final change have gone on to lose
- none of the 44 teams that have led by 24 points or more have gone on to lose.

So, let's summarise: we should feel reasonably comfortable if Port leads by:

- 3 goals or more at quarter-time (83% of teams have gone on to win from this position).
- 1 goal or more at half-time (86% of teams have gone on to win from this position).
- Any lead at all at three-quarter time (91% of teams have gone on to win from this position).

Somehow, those leads just seem way too narrow. There's no chance that I'll feel we're home if Port leads by a lone behind at the final change, whatever the stats show.

Instead then, maybe we should aim for supreme confidence. This, I'd argue, is a reasonable state of being if Port leads by:

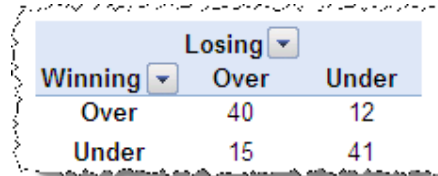
- 5 goals or more at quarter-time (no teams have lost from this position).
- 5 goals or more at half-time (only one team has lost from this position).
- 4 goals or more at three-quarter time (no teams have lost from this position).

~~*~*~*~*~*~*~*~*~*~*~*~*~*~*~*

One final bit of trivia for you to ponder (look, it's going to be another 12 months before I get to use this stuff, so cut me a little slack). The average winning GF score is about 93 points and the average losing score is about 64 points. How correlated do you think deviations about these averages would be? In other words, when the winners have scored more than 93 points do you think the losers are more likely to have scored more than 64 points, fewer than 64 points, or about 64 points?

Here's the answer:

Winning and Losing Scores Relative to Averages



Winning	Losing	Over	Under
Over	40	12	
Under	15	41	

So, clearly, with 81 of the 108 Grand Finals producing winning and losing scores either both above the relevant averages or both below them, there's a large positive correlation between the winning and losing scores in Grand Finals (if you calculate it, the correlation co-efficient is actually +0.79 excluding the two drawn GFs).

Practically, what this means from a gambling viewpoint is that if you think, say, that Geelong will score 100 points or more, you should also think that Port will score more than 64 points. In fact, the best-fitting straight line is:

$$\text{Winning Score} = 24.09 + 1.08 * \text{Losing Score}$$

So, if you think Geelong will score 120 points, the best estimate for Port's score is 89 points.

"Invincibility lies in the defence; the possibility of victory in the Attack"

Sun Tzu

Tony

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Appendix

Notional Initial Funds

For reasons that are somewhat technical (I'm happy to provide details to anyone who's interested but, broadly, it allows me to describe bets in terms of a common percentage for all Investors and still maintain the same share price for all Investors), I need to calculate what I call "Notional Initial Funds". It's calculated separately for each Fund.

For original Investors, the definition is straightforward:

Notional Initial Funds = Actual Funds Invested

For Investors who join the Fund post Round 1:

Notional Initial Funds = Actual Funds Invested / Share Price at the time of investing

(in other words, it's the notional amount that would need to have been invested at the start of the season in order to have returned an amount equal to the amount actually invested).

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