

Looking at football
from a different
point of view

MAFL 2008

27th March
Round #2 2008

Round 2

Bris Lions v Collingwood (Gabba, 28th March 2008)		
Sportsbet	\$1.75	\$2.00
	50% - 57%	43% - 50%
	Bris Lions -6½ pts (\$1.90 / \$1.90)	
Heritage	-	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Brisbane by 1 (Game of the Round)	
Quila	Brisbane by 1	
Shadow	Collingwood	
CTL	Collingwood	
MM	Collingwood (43-0) (Dissenters: None)	
Super MM	Collingwood (14-0) (Dissenters: None)	
Uber MM	Collingwood	
Simplified	Collingwood	

Melbourne v W Bulldogs (M.C.G., 29th March 2008)		
Sportsbet	\$3.10	\$1.33
	25% - 32%	68% - 75%
	Melbourne +18½ pts (\$1.90 / \$1.90)	
Heritage	10.51% (9.75%) on Melbourne	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Western Bulldogs by 2	
Quila	Melbourne by 1	
Shadow	Western Bulldogs	
CTL	Western Bulldogs	
MM	Western Bulldogs (37-6) (Dissenters: MM3-8)	
Super MM	Western Bulldogs (14-0) (Dissenters: None)	
Uber MM	Western Bulldogs	
Simplified	Western Bulldogs	

Adelaide v West Coast (Football Park, 29th March 2008)		
Sportsbet	\$1.75	\$2.00
	50% - 57%	43% - 50%
	Adelaide -6½ pts (\$1.93 / \$1.87)	
Heritage	-	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Adelaide by 4	
Quila	Adelaide by 6	
Shadow	West Coast	
CTL	West Coast	
MM	West Coast (43-0) (Dissenters: None)	
Super MM	West Coast (14-0) (Dissenters: None)	
Uber MM	West Coast	
Simplified	West Coast	

St Kilda v Carlton (Docklands, 29th March 2008)		
Sportsbet	\$1.20	\$4.20
	76% - 83%	17% - 24%
	St Kilda -26½ pts (\$1.90 / \$1.90)	
Heritage	-	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	St Kilda by 14	
Quila	St Kilda by 8	
Shadow	St Kilda	
CTL	St Kilda	
MM	St Kilda (43-0) (Dissenters: None)	
Super MM	St Kilda (14-0) (Dissenters: None)	
Uber MM	St Kilda	
Simplified	St Kilda	

Fremantle v Hawthorn (Subiaco, 29th March 2008)		
Sportsbet	\$1.78	\$1.95
	49% - 56%	44% - 51%
	Fremantle -6½ pts (\$1.97 / \$1.83)	
Heritage	-	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Fremantle by 13	
Quila	Fremantle by 10	
Shadow	Hawthorn	
CTL	Hawthorn	
MM	Hawthorn (31-12) (Dissenters: MM32, 33, 35-44)	
Super MM	Hawthorn (14-0) (Dissenters: None)	
Uber MM	Hawthorn	
Simplified	Hawthorn	

Sydney v Pt Adelaide (S.C.G., 30th March 2008)		
Sportsbet	\$1.68	\$2.10
	52% - 60%	40% - 48%
	Sydney -6½ pts (\$1.90 / \$1.90)	
Heritage	-	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Sydney by 29	
Quila	Sydney by 29	
Shadow	Port Adelaide	
CTL	Port Adelaide	
MM	Port Adelaide (25-18) (Dissenters: MM2, 16, 29-44)	
Super MM	Sydney (14-0) (Dissenters: None)	
Uber MM	Sydney	
Simplified	Sydney	

Essendon v Geelong (Docklands, 30th March 2008)		
Sportsbet	\$3.65	\$1.25
	20% - 27%	73% - 80%
	Essendon +20½ pts (\$1.90 / \$1.90)	
Heritage	13.48% (12.50%) on Essendon	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Geelong by 10	
Quila	Geelong by 3	
Shadow	Geelong	
CTL	Essendon	
MM	Geelong (43-0) (Dissenters: None)	
Super MM	Geelong (14-0) (Dissenters: None)	
Uber MM	Geelong	
Simplified	Geelong	

Richmond v Kangaroos (M.C.G., 30th March 2008)		
Sportsbet	\$2.10	\$1.68
	40% - 48%	52% - 60%
	Richmond +7½ pts (\$1.90 / \$1.90)	
Heritage	5.68% (5.26%) on Richmond	
Alpha	-	
Beta	-	
Chi	-	
Line	-	
Chi	Kangaroos by 8	
Quila	Richmond by 8	
Shadow	Richmond	
CTL	Richmond	
MM	Kangaroos (40-3) (Dissenters: MM2, 5, 6)	
Super MM	Richmond (10-4) (Dissenters: SM3, 4, 5, 6)	
Uber MM	Richmond	
Simplified	Richmond	

This Week's Round in Review

MAFL Wagers

You'd think that, now in my third year of running MAFL, I'd be inured to placing sizeable wagers on moderate to longish outsiders. But there's still something, even now, about placing my trust in a few lines of computer code, whittled over a few hundred hours of research and review, that makes me pause. Probably always will.

This week we have 3 bets.

1. Melbourne, 10.51% @ \$3.10 up against the Bulldogs

This bet exemplifies the Heritage Fund's – indeed all Funds' – complete lack of team loyalty. Last week we were rejoicing as the Bulldogs came from behind against the Crows; this week we'll cheer louder still if the Dees steamroller them. I recall, I think in the first year of the Fund, one Investor commenting how difficult he was finding it to be so promiscuous with his footballing affections from week to week.

Of the two sizeable bets we have this coming week, this is the one that I prefer. Both the Alpha and Beta Funds, had they been trading, would also have been on the Dees, as would the Line Fund, leaping at the 18½ points start that's on offer in a classic example of what I've come to term an 'insurance' bet, which would offset the loss should the Dees get close but not quite close enough. However, at this point in the season we're not buying premia.

2. Essendon, 13.48% @ \$3.65 playing Geelong

Bets such as this are the ones that make me lose sleep: a chunky bet on a team with a first-up win, but against the competition's raging-hot favourites.

You might wonder why we're on the Dons, given that this match is officially slated as a Geelong home game and given that the Heritage Fund treats away teams much as a US doctor treats an uninsured patient. Well, last I checked, Kardinia's a long way from Docklands and the Dons had 9 games at Docklands in 2007 and are scheduled for 11 more this year, so I reckon this is a Dons home game.

There'll be much barking and howling in the Corke household come Sunday if this one gets home and not all of it will come from the quadrupeds.

3. Richmond, 5.68% @ \$2.10 playing the Kangaroos

A successful wager in this game would be welcomed, but won't be enough to completely repair the damage should both the Dees and the Dons fall short, which, let's be honest, is a slightly better than even money proposition.

Last year, the Tigers melted a soft spot into the hearts of every MAFL Investor with their Round 16 win at \$6.25, which kicked the Heritage Fund share price up 70c. Ah, the memories ...

So, here are the eight possible outcomes for this weekend, ignoring draws:

<i>Possible Results (ignoring draws)</i>								
Melbourne	W	W	L	L	W	W	L	L
Essendon	W	W	W	W	L	L	L	L
Richmond	W	L	W	L	W	L	W	L
Return	64.0%	52.1%	31.5%	19.5%	14.8%	2.9%	(17.7%)	(29.7%)
Probability	3.4%	4.2%	7.9%	9.9%	9.9%	12.4%	23.1%	28.9%

The expected loss is a little over 2%, but the standard deviation is almost 27%.

Put simply, we need Melbourne or the Dons to win to make for a profitable weekend. A quintessential Heritage Fund round: the chance for glory but the likelihood of defeat.

Tips

Brisbane v Collingwood (Collingwood 61-3)

The Pies have it here (sorry), with only Chi and Quila (and BKB) tipping the favourites and home team, the Lions. If Chi had his way he'd have tipped a draw for this game but we don't allow such fence-sitting here so he's made it his Game of the Round.

Melbourne v Western Bulldogs (Western Bulldogs 57-7)

Strong support across the tipster community for the Dogs to go back-to-back this week. The MM models that are supporting the Dees are not those with historically impressive tipping records, and Quila's endorsement hardly improves things. Heritage Fund Investors hope that, this time, the contrarians are right.

Adelaide v West Coast (West Coast 61-3)

Another game where the only additional support for the favourite comes from Chi and Quila. Also in common with the Lions v Pies game is that the margin of victory is expected to be small.

St Kilda v Carlton (St Kilda 64-0)

Little to talk about here. Sportsbet have it as almost a 4½ goal game.

Fremantle v Hawthorn (Hawthorn 49-15)

The home ground advantage of interstate teams is huge and, in this case, is almost certainly what's led to Fremantle's favouritism. One interesting aspect of the MM model support for Freo is that it comes entirely from those models that are using data from the 2006 season in their decision-making so we'll get some insight for the result of this game into just how relevant such apparently ancient data is.

Sydney v Port Adelaide (Sydney 37-27)

Easily the most contentious game we've had this season. Significantly, the historically well-credentialed MM15 and MM16 models are split, with MM15 supporting Port, and MM16 joining with all the Super MM models, the Über Model and the Simplified Über Model in supporting the Swans. The dogs have it as a comfortable Swans victory, but the bookies think it'll be close.

Essendon v Geelong (Geelong 63-1)

There can't have been many times in the history of the AFL when a team playing at home and against a team lower on the ladder has started a 20½ point underdog. Such unusual circumstances have led to CTL being the lone tipster supporting the Dons. Heritage Fund Investors applaud CTL's courage and fervently hope it will, like them, be justly and handsomely rewarded.

Richmond v Kangaroos (Kangaroos 53-11)

Another game on which Chi and Quila disagree and on which the MM models, in aggregate, disagree with the Super MM models. Looks likely to be a close game to finish the round.

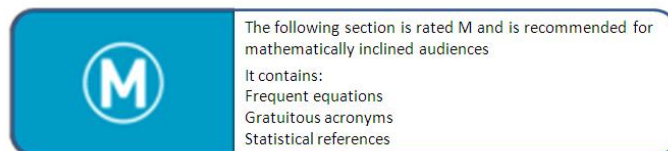
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A relatively clear-cut set of most-favoured teams this week then:

- Collingwood
- Bulldogs
- West Coast
- St Kilda
- Hawthorn
- Sydney
- Geelong
- Kangaroos

Building a Team Rating System

Every so often I spend time investigating the methods that other people are using to predict sporting outcomes. One approach that pops up regularly, particularly amongst pundits and prognosticators from the US, is the use of 'team rating' systems.



These systems vary in complexity from those that factor in the minutest of detail – what day of the week the game was played, how big the crowd was, what the temperature was, how far the teams had travelled, and so on – to those that look only at who played, where they played, who won and by how much.

Virtually all of these systems adjust each team's rating based on its most recent performances. Often they also seek to incorporate the simple principle that a victory over a stronger team should be more richly rewarded than a victory over a weaker team and, more subtly, that an insufficiently emphatic win over a significantly weaker team should be penalised, and a narrow loss to a substantially stronger team should also be rewarded.

So, these systems start with a formula something like the following:

$$R_{new} = R_{old} + k(\text{Actual Outcome} - \text{Expected Outcome})$$

Where R_{new} is the new rating for some team, R_{old} is its previous rating, and k is some constant that determines how rapidly a team's rating responds to a single outcome.

Now, to incorporate the principle I alluded to a moment ago we need to define the Expected Outcome in terms of the relative strengths of the two teams, as measured by their ratings. Here we can also take into account the benefit that accrues to a team that is playing at home.

One formulation that's been suggested is:

$$\text{Expected Outcome} = \frac{1}{(1 + 10^{(R_b - R_a \pm h)/S})}$$

which, given time, is an equation I'm sure we all would have arrived at, and in which R_a is the rating of the team that is being updated, R_b is the rating of the team that it is playing, h is a measure of the advantage enjoyed by playing at home (we use $-h$ if the team whose rating is being updated is at home, $+h$ if their opponent is at home, and 0 otherwise), and S is a smoothing parameter that determines how variously sized ratings differentials are converted into different Expected Outcomes. The larger S is, the bigger the ratings differential required to achieve a given change in Expected Outcome.

Calculated in this way, Expected Outcomes vary between 0 and 1 , and when two equally-rated teams meet on a neutral venue the Expected Outcome is 0.5 .

Lastly, we need a way of taking the outcome of a game – the Margin of victory or defeat – and converting it into an Actual Outcome that also lies between 0 and 1 .

A formulation that works for this is:

$$\text{Actual Outcome} = x + 0.5 - x^{(1 + \frac{\text{Margin}}{m})}$$

Where x is a constant that broadly determines how adjusted margins of victory are converted into an Actual Outcome measure, Margin is the result of the contest between the two teams in question, taken from the point of view of the team that won (we use $1 - \text{Actual Outcome}$ if the team we're re-rating was the loser). In this equation, m is another constant, which here determines the basis on which changes in the margin of victory are converted into changes in the Actual Outcome measure. Note that when Margin = 0 , the Actual Outcome = 0.5 .

There's a possible practical flaw with the Actual Outcome formula as it's stated above in that the bigger the margin of victory, the closer the value of Actual Outcome gets to 1 . This has the effect of moving team ratings around dramatically after big wins or big losses. Generally, this is felt to be undesirable and so, to counter it, most systems put a cap on the maximum value of Margin. Then, if a team wins by more than the maximum margin, it's assumed to have won by the maximum margin instead.

Only two other parameters are needed to produce a system that we can implement: what the initial rating for each team will be (call it I), and the extent to which previous season's ratings carryover into the next season (call it C).

These few equations and parameters provide a remarkably flexible framework within which to construct different versions of the system, each designed to be good at one thing or another such as predicting winners, measuring team strength in the short or long term, or estimating victory probabilities well enough to make money wagering. I've decided that, henceforth, this system of equations shall be known as the MAFL AFL Ratings System (MARS) to show that I'm not averse to RAS Syndrome (aka Recursive Acronym Syndrome Syndrome)

Let me explain the flexibility of this system a little better by describing more fully the effects of varying each of the available parameters.

<i>Parameter</i>	<i>Effect of Varying Parameter</i>
k	Larger values make the system more responsive to the most recent result
h	Larger values make it harder for Home teams (and easier for Away teams) to lift their rating as it increases the Expected Outcome for any given ratings differential, so Home teams need to win by a wider margin to achieve the same ratings point lift
S	Larger values make it easier for higher rated teams to increase their ratings because they reduce the Expected Outcome for a given ratings point differential
x	Larger values make it harder for winning teams to increase their ratings because they decrease the Actual Outcome for a given margin of victory. Larger values also decrease the rate at which larger margins of victory translate into larger values of Actual Outcome, so reducing the ratings change impact of larger victories
m	Larger values make it harder for winning teams to increase their ratings because they decrease the Actual Outcome for a given margin of victory.
l	Is a scaling parameter only and has no effect on the relative team ratings
C	Larger values increase the importance of ratings points accumulated in earlier seasons

For this week's newsletter, I've chosen the value of all parameters to empirically maximise the predictive performance of the resulting system across the seasons 1999 to 2007. This version of the system we'll call MARS Predictor.

The MARS Predictor Equations

$$R_{new} = R_{old} + 37.5 (Actual\ Outcome - Expected\ Outcome)$$

$$Expected\ Outcome = \frac{1}{(1 + 10^{(R_b - R_a \pm 6)/550})}$$

(use +6 for an Away Team, -6 for a Home Team, 0 for games played at a neutral venue)

$$Winner's\ Actual\ Outcome = 0.99 - 0.49^{(1 + \frac{Margin}{130})}$$

$$Loser's\ Actual\ Outcome = 1 - Winner's\ Actual\ Outcome$$

$$Maximum\ value\ for\ Margin = 78$$

$$Initial\ ratings\ for\ all\ teams\ for\ the\ 1999\ season = 1,000$$

$$Initial\ ratings\ for\ all\ teams\ in\ subsequent\ seasons = 740 + 26\% \times Rating\ at\ end\ of\ previous\ season$$

The way to use this system is to start with each team having a rating of 1,000, then use the MARS Predictor equations to update each team's rating after each round of results, including finals.

As I said, MARS Predictor has been optimised for historical predictive accuracy. So let's first take a look at how well it predicts.

Season	# Correct	% Correct
1999	114.5	61.9%
2000	126	68.1%
2001	123	66.5%
2002	122	65.9%
2003	127.5	68.9%
2004	120	64.9%
2005	123.5	66.8%
2006	118	63.8%
2007	123.5	66.8%
Total 2000-2007	983.5	66.5%

The data in the table at left has been derived by assuming that the tipped team for a given match is:

- the team with the higher MARS rating going into the match if there's no home team
- otherwise, the home team unless its MARS rating is more than 5 points lesser than the away team's MARS rating

Given how little data we've used to come up with the MARS ratings, I think the observed level of accuracy is acceptable. Note that I've left the 1999 season out of the total at the foot of the table since 1999 is the only season not to benefit from knowledge of previous season form.

The predictive accuracy would be even better if the results for Rounds 1 to 8 were excluded, as the table at right highlights. That said, 61% is not all that bad a result for the early rounds of a season. If you've ever participated in a footy tipping competition you'll know just how hard it usually is to tip accurately in the early rounds.

Rounds	% Correct
1-4	61.1%
5-8	61.1%
9-11	66.4%
12-15	70.1%
16-19	69.1%
20-22	70.1%
Finals	72.2%

So it seems fair to claim that MARS is reasonably accurate, but is it well-calibrated? In other words, is there a relationship between the size of the MARS ratings differential between two teams and the actual margin of victory when they meet?

The table below is also based on the data from seasons 2000 to 2007 and suggests that MARS is quite well-calibrated.

Consider the first row of the table. It relates to those games in which the Away Team (actual or, if the game was played at a neutral venue, notional) had a MARS rating 40 points or more higher than the Home Team. Of these games, 25% ended in a victory to the Away Team of 48 points or more, another 20% ended in a victory for the Away Team of between 24 and 47 points, and so on. Looking at the final two columns in the row you can see that the Away Team won 71% of these encounters and the Home Team won just 29%, which, given the size of the ratings differential, is as it should be.

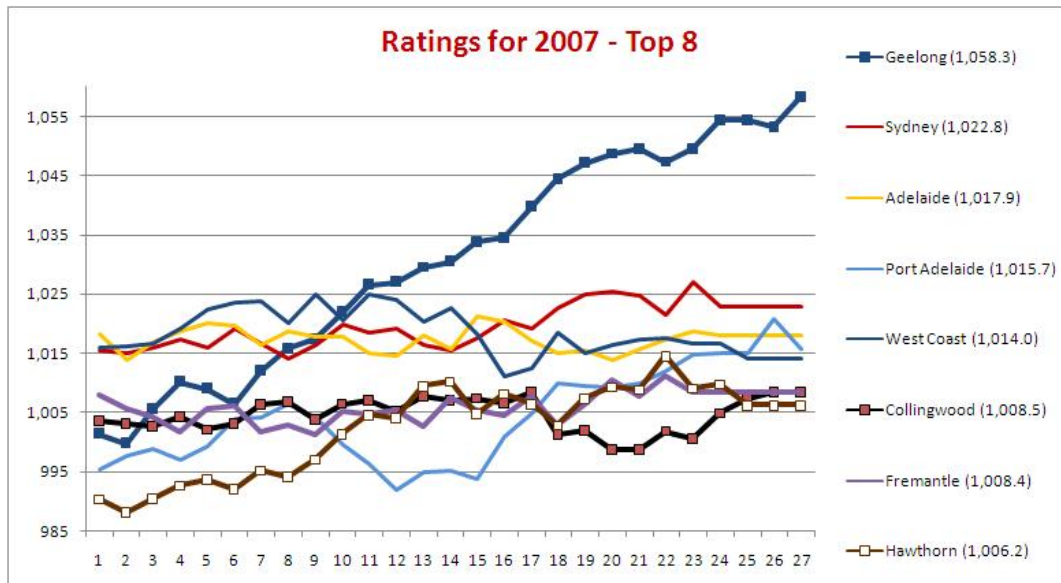
Team With Higher MARS Rating	Size of MARS Differential	Away Team Wins (actual or notional)						Home Team Wins (actual or notional)						Aggregate across all margins	
		48 pts+	24 - 47 pts	12 - 23 pts	6 - 11 pts	1 - 5 pts	Draw	1 - 5 pts	6 - 11 pts	12 - 23 pts	24 - 47 pts	48 pts+	Total Away	Total Home	
<i>Away Team (actual or notional) rated higher by ...</i>	40 pts or more	25%	20%	15%	8%	3%	0%	5%	1%	7%	14%	2%	71%	29%	
	20 < 40 pts	19%	18%	9%	4%	4%	2%	5%	8%	5%	17%	8%	55%	43%	
	5 < 20 pts	11%	13%	11%	10%	5%	2%	7%	4%	12%	18%	8%	50%	49%	
<i>Home Team (actual or notional) rated higher by ...</i>	less than 5 pts	5%	16%	7%	3%	6%	1%	11%	7%	11%	22%	11%	37%	62%	
	5 < 20 pts	6%	11%	8%	2%	3%	0%	7%	6%	17%	19%	20%	31%	69%	
	20 < 40 pts	4%	10%	9%	4%	3%	0%	7%	8%	12%	24%	21%	29%	71%	
	40 pts or more	2%	4%	5%	3%	4%	1%	4%	7%	12%	25%	34%	16%	83%	
	40 pts or more	0%	1%	1%	1%	1%	0%	1%	4%	11%	24%	56%	4%	96%	

As we move down the rows, the size of the Away Team's superiority as measured by MARS rating declines, eventually reaching the point at which the Home Team has the higher MARS rating. Consistent with this, the percentage of games won by the Away Team declines, and does so in a fairly disciplined manner as you'd hope.

Note that Away Teams with rating superiority of 5 to 20 points win only about 50% of the time, and those with less than a 5 point superiority win only 37% of the time. This is the rationale for selecting Home Teams to win even if their opponent has a slightly higher rating.

A good way to understand how MARS works in practice is to look at the ratings for each of the teams across the 2007 season.

The first chart shows the ratings for the teams that finished with the eight highest ratings. The numbers along the bottom of the chart denote Round Number and the rating shown is as at the start of the relevant round. The ratings shown against Round 27 are the post Grand Final ratings.

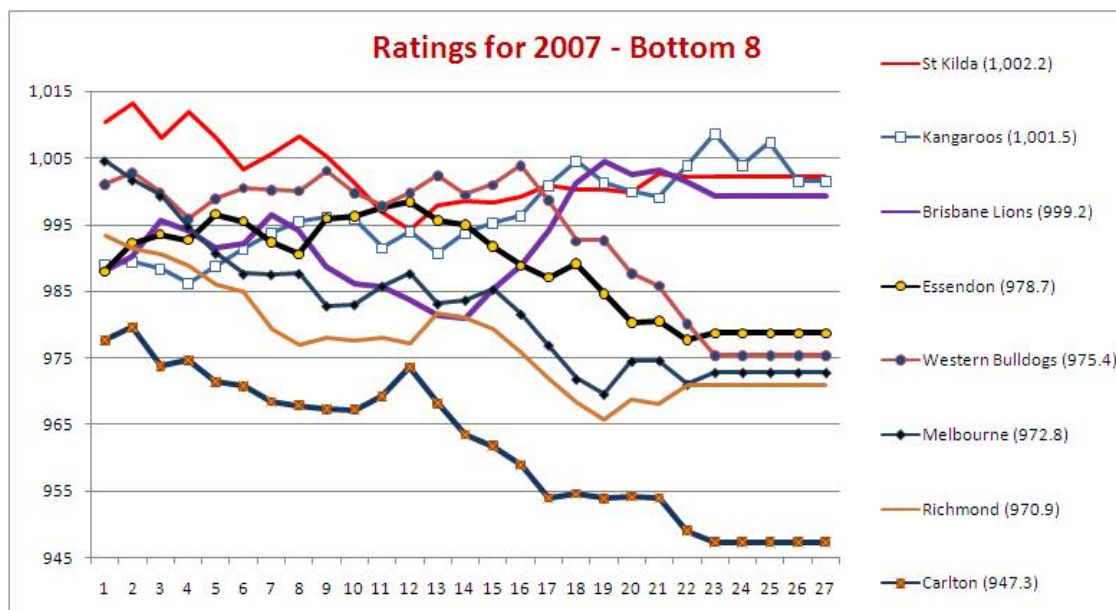


Geelong's initial Great Leap Forward came courtesy of its 222-65 demolition of the Tigers in Round 6. If not for the cap on Margin, the effect of this game would have been greater still. It wasn't until the start of Round 10, however, that the Cats led the ratings. It's interesting to note how MARS Predictor thereafter recognised the existence and increasing size of the Cats' superiority.

According to the MARS Predictor ratings, Sydney finished the season in second place, with Port being relegated on the strength of its Grand Final obliteration to fourth, behind Adelaide, and just a little ahead of West Coast in fifth. Collingwood and Fremantle – who didn't even make the Final 8 – finished in a virtual dead-heat for sixth, while Hawthorn finished eighth.

Turning next to the lower half of the ratings ladder we find St Kilda in 9th and then the last of last year's finalists, the Roos, in perhaps a surprising 10th. Barring their capitulation to Port Adelaide in the Prelim Final, the Roos would have probably finished around 6th.

After the Roos came the Lions, the only other team that finished the season above or around a rating of 1,000. Then came a cluster including Essendon, the Bulldogs, Melbourne and Richmond and, finally, and quite a distance away, the priority-draft-pick-assured, Carlton, who dropped over 30 ratings points on the season, a little less than Melbourne, who dropped almost 32, and a little more than the Bulldogs, who dropped a smidge under 26.



The five games that had the largest effect on team ratings in 2007 were:

1. R17 - Brisbane Lions d Collingwood 149-56, away and with about a 14½ point lower rating (change +7.20 Rating Points)
2. R15 - Port Adelaide d West Coast 153-62, at home, and with about a 24½ point lower rating (change +7.12 Rating Points)
3. R17 - West Coast d Western Bulldogs 158-71, away, and with only about a 13½ point higher rating (change +6.10 Rating Points)
4. Prelim Final - Port Adelaide d Kangaroos 133-46, at home, with about a 7½ point higher rating (change +5.87 Rating Points)
5. R2 – Geelong d Carlton 162-84, away, with about a 20 point higher rating (change +5.85 Rating Points)

Finally, to put these changes in context, it might be helpful to know what the profile of ratings changes was across all 185 games last season:

- 10% of matches saw ratings change by 0.43 ratings points or less
- 25% of matches saw ratings change by 0.98 ratings points or less
- 50% of matches saw ratings change by 2.34 ratings points or less
- 75% of matches saw ratings change by 3.58 ratings points or less
- 90% of matches saw ratings change by 4.83 ratings points or less

What I want to finish with is a look at MARS Predictor for 2008.

Firstly, here's how it would have tipped last weekend:

- Richmond to beat Carlton (✓)
- Geelong to beat Port Adelaide (✓)
- Collingwood to beat Fremantle (✓)
- Sydney to beat St Kilda (✗)
- West Coast to beat Brisbane Lions (✓)
- Adelaide to beat the Western Bulldogs (✗)
- Hawthorn to beat Melbourne (✓)
- Kangaroos to beat Essendon (✗)

And, here's how these results have affected the Predictor MARS ratings:

Team	Initial Rating	Init Ranking	Δ Round 1	New Rating	Ranking	Δ Rank
Geelong	1,027.4	1	+0.3	1,027.7	1	-
Sydney	1,010.7	2	-0.3	1,010.4	2	-
Adelaide	1,008.4	3	-0.8	1,007.6	5	Down 2
Port Adelaide	1,007.4	4	-0.3	1,007.0	6	Down 2
West Coast	1,006.6	5	+1.0	1,007.6	4	Up 1
Collingwood	1,004.0	6	+2.2	1,006.2	7	Down 1
Fremantle	1,004.0	7	-2.2	1,001.7	8	Down 1
Hawthorn	1,002.9	8	+5.5	1,008.5	3	Up 5
St Kilda	1,001.0	9	+0.3	1,001.4	9	-
Kangaroos	1,000.7	10	-5.4	995.3	12	Down 2
Brisbane Lions	999.6	11	-1.0	998.6	10	Up 1
Essendon	990.0	12	+5.4	995.4	11	Up 1
Western Bulldogs	988.4	13	+0.8	989.3	13	-
Melbourne	987.2	14	-5.5	981.7	15	Down 1
Richmond	986.3	15	+2.6	988.9	14	Up 1
Carlton	975.2	16	-2.6	972.6	16	-

Given the ratings at left, this week's tips would be:

- Collingwood
- Bulldogs
- Adelaide
- St Kilda
- Hawthorn
- Sydney
- Geelong
- Kangaroos

I'm not yet ready to install MARS Predictor as an official tipster (and anyway, surely we already have enough of them) but it'll be fun to watch how it performs this year.

Pre-Season Bookmakers' Prices

Well last week's results certainly shook things up a bit. Almost every price has changed and, when I first looked, Domebet weren't even fielding a market on the Premiership.

Team	Bookmakers' Prices (26th March v 19th March)							
	Premiership Winner			Final 8		Wooden Spoon		Miss 8
	TAB	Centrebet	Domebet	TAB	Centrebet	TAB	Centrebet	TAB
Geelong	3.00 -	3.00 S	3.00 S	1.03 S	1.03 S	501.00 L	1001.00 L	10.00 L
St Kilda	6.50 -	7.00 -	7.00 S	1.22 S	1.25 S	251.00 L	251.00 L	3.20 L
Hawthorn	7.00 S	8.00 S	8.00 S	1.22 S	1.25 S	251.00 L	201.00 L	3.20 L
Collingwood	9.00 S	9.00 S	10.00 S	1.38 S	1.42 S	126.00 L	101.00 L	2.50 L
West Coast	12.00 -	12.00 -	13.00 S	1.42 S	1.45 S	101.00 L	51.00 L	2.50 -
Port Adelaide	15.00 L	15.00 L	16.00 L	1.45 -	1.50 L	51.00 S	51.00 S	2.25 S
Fremantle	16.00 L	15.00 L	16.00 L	1.50 L	1.45 L	51.00 S	51.00 S	2.20 S
Essendon	21.00 S	26.00 S	34.00 S	2.00 S	2.25 S	15.00 L	13.00 L	1.52 L
Sydney	23.00 L	23.00 L	21.00 L	2.00 L	2.00 L	26.00 S	26.00 S	1.65 S
Brisbane Lions	26.00 L	26.00 L	26.00 L	2.10 -	2.00 -	21.00 L	21.00 -	1.55 L
Adelaide	26.00 L	26.00 L	31.00 L	2.10 L	2.05 L	15.00 S	21.00 S	1.55 S
Western Bulldogs	31.00 S	34.00 S	41.00 -	2.30 S	2.40 S	15.00 L	15.00 L	1.47 L
Kangaroos	51.00 L	51.00 L	67.00 L	3.10 L	3.00 L	6.50 S	7.00 S	1.25 S
Carlton	61.00 L	67.00 L	71.00 L	3.25 L	3.25 L	7.00 S	7.00 S	1.25 S
Richmond	61.00 S	67.00 S	61.00 S	3.60 S	3.75 S	4.80 L	4.75 L	1.18 L
Melbourne	151.00 L	151.00 L	201.00 L	6.00 L	5.50 L	2.50 S	2.60 S	1.12 S
Over-round	21.3%	17.3%	12.2%	10.7%	9.5%	25.8%	23.7%	12.5%

On the TAB's Premiership market, Freo, Sydney, the Roos and Melbourne were all fairly dramatically repriced upwards this week, and Hawthorn, Essendon and the Bulldogs were substantially repriced downwards.

With Geelong such a strong favourite and three other teams priced at under \$10, there's a lot more implied probability concentrated in the teams at the top of the Premiership betting market this year compared to last (assuming equal overround on every team in both years). The top three teams, for example, this year represent an aggregated probability of 52%, compared with 37% at the equivalent time last year. Amongst the top 4 teams the figure is 61% this year and was 50% last year.

One implication of this concentration of probability is that it's possible this year to create a Dutch book for oneself – one where the implied probabilities sum to less than one and so a guaranteed profit can be secured – by correctly eliminating just one or two of the more-fancied teams from Premiership contention and wagering on all the rest in proportion to their probabilities, adjusted for the teams you've removed.

Let me give you an example. Say you feel confident that the Cats won't win this year. Excluding the Cats, the TAB overround is just 88%, so we can guarantee a bookie loss of $1 - 1/\text{Overround} = 13.69\%$ by wagering as shown in the table at right.

Of course, everything goes decidedly pear-shaped should the Cats defy your prediction and go on to win the Premiership, but that's why it's called gambling and not minting.

	TAB Price	Implied Prob	Adjusted Prob	Wager	Return if Win	Sum of All Other Bets	Net Profit if Win
Geelong	3.00	33.3%	0.0%	\$0.00	-	-	-
St Kilda	6.50	15.4%	17.5%	\$174.90	\$961.96	\$825.10	\$136.87
Hawthorn	7.00	14.3%	16.2%	\$162.41	\$974.46	\$837.59	\$136.87
Collingwood	9.00	11.1%	12.6%	\$126.32	\$1,010.55	\$873.68	\$136.87
West Coast	12.00	8.3%	9.5%	\$94.74	\$1,042.13	\$905.26	\$136.87
Port Adelaide	15.00	6.7%	7.6%	\$75.79	\$1,061.08	\$924.21	\$136.87
Fremantle	16.00	6.3%	7.1%	\$71.05	\$1,065.81	\$928.95	\$136.87
Essendon	21.00	4.8%	5.4%	\$54.14	\$1,062.73	\$945.66	\$136.87
Sydney	23.00	4.3%	4.9%	\$49.43	\$1,087.44	\$950.57	\$136.87
Brisbane Lions	26.00	3.8%	4.4%	\$43.73	\$1,093.14	\$956.27	\$136.87
Adelaide	26.00	3.8%	4.4%	\$43.73	\$1,093.14	\$956.27	\$136.87
Western Bulldogs	31.00	3.2%	3.7%	\$36.67	\$1,100.19	\$963.33	\$136.87
Kangaroos	51.00	2.0%	2.2%	\$22.29	\$1,114.58	\$977.71	\$136.87
Carlton	61.00	1.6%	1.9%	\$18.64	\$1,118.23	\$981.36	\$136.87
Richmond	61.00	1.6%	1.9%	\$18.64	\$1,118.23	\$981.36	\$136.87
Melbourne	151.00	0.7%	0.8%	\$7.53	\$1,129.34	\$992.47	\$136.87
		121.3%	100.0%	\$1,000.00			13.7%

