

# FLUCTUATING VFL ATTENDANCES: SOME INSIGHTS FROM AN ECONOMIC ANALYSIS

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## INTRODUCTION:

Australian Rules Football is the most popular sport in Australia in terms of spectator interest, match attendances and media coverage. Of the various state-based competitions, the one centred in Melbourne and run by the Victorian Football League (VFL) is recognised as the biggest and best in both crowd sizes and the standard of on-field performances.<sup>1</sup>

In terms of spectator interest the VFL reached a peak of almost 3.4 million spectators in the 1981 season of home-and-away matches. Since 1981 there has been a steady decline in attendances. In 1985 just over 2.7 million spectators paid \$8.2 million for the privilege of watching the game, whilst the final series conducted at the end of the season attracted 385,956 spectators who paid a total of \$5.0 million.

Declining attendances have been the focus of extensive comment and discussion in the Melbourne media and amongst the general public. Many reasons have been put forward to try and explain the decline. Those propounded have included changes in the game itself (e.g. "too much handball these days" or the extinction of the "drop kick"), the intrusion of business into football, the buying and selling of players leading to a breakdown in club loyalty and partisanship, changes in the social and demographic profiles of Melbourne, the price of admission to a game, spectator facilities at grounds, the unevenness of the competition, the building of VFL Park at Waverley and economic trends such as rising living standards.

In a most interesting recent article Bob Stewart introduced readers of *Sporting Traditions* to some of the administrative and financial aspects of the VFL.<sup>2</sup> In certain respects this article com-

plements and extends the work of Stewart by focusing attention even more closely onto how economic factors affect VFL attendances.

In this paper we aim to put the recent decline in attendances into perspective by considering the long term attendance behaviour of VFL football spectators since 1950. We then relate the rises and falls in attendances to important economic factors, in particular, income levels and price of admission, and contend that these factors can account for much of the fluctuation in attendances, including the recent down-turn.<sup>3</sup>

#### ATTENDANCES AT VFL MATCHES 1950-1985:

The figures in Table 1 show that the VFL has enjoyed generally increasing attendances in the post-war period, up to a peak in 1981. Attendances in 1981 were 60 percent higher than in 1950. But these raw figures are misleading, because since 1950 the football season has been extended from 18 rounds of home-and-away games to 20 rounds in 1968 and again to 22 rounds in 1970. This 22 percent increase in the number of matches would account for some of the increase in attendances. Adjusting the attendance figures for the number of rounds played gives a somewhat cyclical pattern, as shown in Figure 1 which graphs the annual average attendance per round over the period 1950 to 1985. We can identify peaks in 1957, 1963, 1972 and 1981, with troughs in 1953, 1960, 1968 and 1975. The pattern is reasonably consistent, with peak and trough following each other at roughly four-yearly intervals. This pattern would suggest a trough in attendance in about 1985 and a subsequent up-turn.

This may seem like good news for the VFL administration. But we believe that a deeper, causal analysis is required before this happy conclusion can be accepted. For example, Figure 1 ignores the doubling of Melbourne's population since 1950. We felt it essential to take the population base into account. In studies reported elsewhere we found that this was best done by considering the average attendance expressed as a percentage of Melbourne's population.<sup>4</sup>

This variable is graphed in Figure 2. The fluctuations show that a longer term decline underlies the attendance figures. In broad outline, the picture is one of four periods:

Table 1: INFLUENCES ON VFL ATTENDANCES 1950-85

Year	Attendance	Number of Rounds	Number of VFL Park matches	Adult Admission Price (¢)	Consumer Price Index	Average Weekly Earnings (\$)	Number of Collingwood Wins	Collingwood League Position	Estimated Annual Melbourne Population
1950	2,102,500	18	0	12	47.6	19.4	9	7	1,447,585
1951	2,081,200	18	0	21	53.8	23.2	14	2	1,482,985
1952	2,248,568	19	0	25	65.9	28.4	14	2	1,518,385
1953	2,065,027	18	0	25	72.1	31.0	14	2	1,553,785
1954	2,363,716	18	0	21	73.5	32.7	10	7	1,589,185
1955	2,341,194	18	0	25	74.0	34.3	14	2	1,645,701
1956	2,371,555	18	0	30	77.0	36.7	13	2	1,702,220
1957	2,540,236	18	0	30	81.5	38.4	9.5	5	1,758,739
1958	2,391,700	18	0	30	82.3	39.5	12	2	1,815,258
1959	2,351,499	18	0	30	83.6	40.7	12	3	1,871,777
1960	2,292,556	18	0	35	85.7	43.9	11	4	1,928,296
1961	2,634,236	18	0	35	89.2	46.0	5.5	9	1,984,815
1962	2,720,209	18	0	35	89.6	47.7	9	7	2,034,009
1963	2,739,372	18	0	45	89.8	49.0	7	8	2,083,205
1964	2,536,962	18	0	50	90.6	61.6	13.5	2	2,132,401
1965	2,550,567	18	0	50	94.0	55.5	13	2	2,181,597
1966	2,567,643	18	0	50	97.4	58.0	15	1	2,230,793
1967	2,428,002	18	0	60	100.0	61.9	12	4	2,299,636
1968	2,425,905	20	0	60	103.3	65.5	9	7	2,368,477
1969	2,486,795	20	0	60	106.0	70.4	15	1	2,437,318

Year	Attendance	Number of Rounds	Number of VFL Park	Adult Ad- mission Price (¢)	Consumer Price Index	Average Weekly Earnings(\$)	Number of Collingwood Wins	Collingwood League Position	Estimated Annual Melbourne Population
Table 1 (cont.)									
1970	2,863,780	22	18	70	109.4	76.3	18	1	2,506,159
1971	2,906,157	22	18	70	114.6	84.8	14.5	4	2,575,000
1972	2,934,919	22	20	100	122.4	93.4	14.5	3	2,604,740
1973	2,836,694	22	20	100	129.8	101.8	19	1	2,634,480
1974	2,763,654	22	20	150	146.6	118.3	15	4	2,664,220
1975	2,755,765	22	20	200	171.1	148.3	13	5	2,693,960
1976	2,863,112	22	20	200	193.3	169.6	6	12	2,723,700
1977	2,773,007	22	20	200	220.0	190.7	18	1	2,739,680
1978	3,024,926	22	20	250	241.0	209.5	15	3	2,755,660
1979	3,096,945	22	20	270	260.7	225.6	16	3	2,771,640
1980	3,280,129	22	21	300	287.2	247.9	14.5	5	2,787,620
1981	3,754,023	22	22	400	314.2	281.3	17	2	2,803,600
1982	3,264,284	22	24	450	346.7	303.5	4	10	2,819,580
1983	3,217,578	22	22	600	386.9	338.0	12	6	2,835,560
1984	2,951,247	22	22	600	413.3	366.5	13	4	2,851,540
1985	2,727,217	22	22	700	431.1	391.4	10	7	2,867,520

Sources: See Note 3.

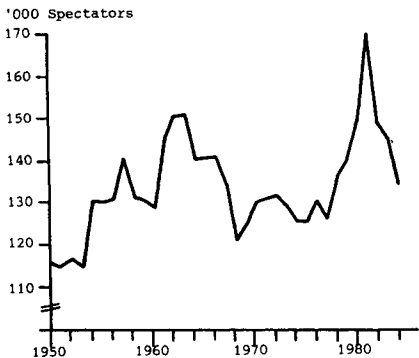


Fig. 1. Average VFL Attendances per Round

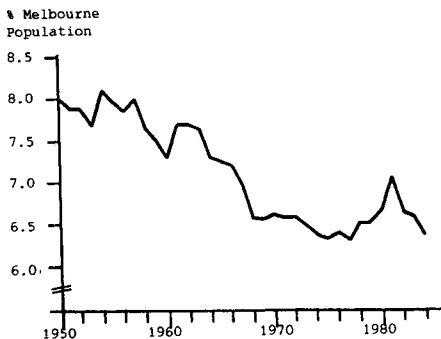


Fig. 2. Average VFL Attendances per Round

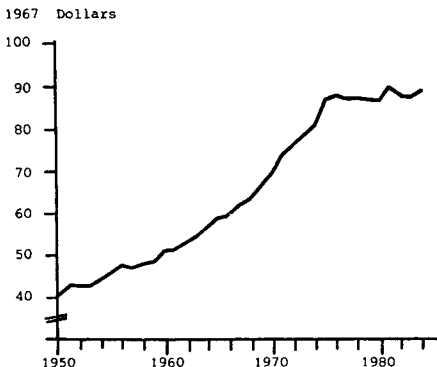


Fig. 3. Real Average Weekly Earnings: Australia

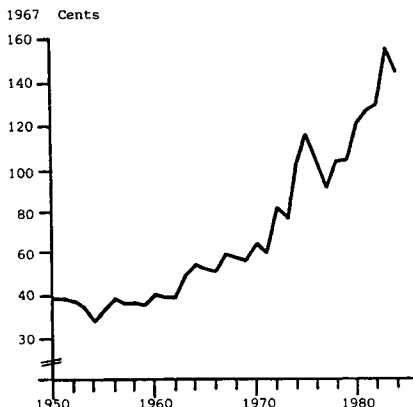


Fig. 4. Real Price of Attending VFL Football

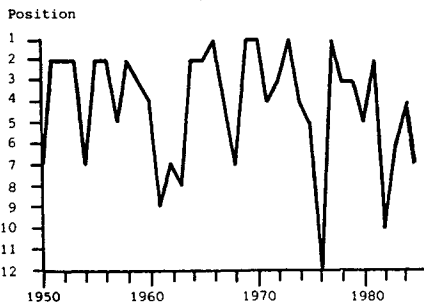


Fig. 5. Collingwood League Position

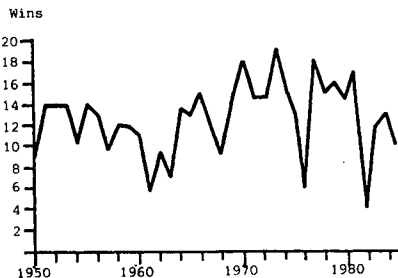


Fig. 6. Number of Collingwood Wins

- (1) 1950-57 attendances fluctuating (about the 7.5-8% mark);
- (2) 1958-77 declining attendances;
- (3) 1978-81 a short term revival; and
- (4) 1982- decline to levels of the late 1970s (about 4.7%).

The decline that has caused all the recent concern and comment is thus seen to date from 1981 and to be a consequence of the reversal in the trend of the period 1978-81. Perhaps this short-term rise in attendances was an aberration. The period 1978-1985 may be seen as a seven year break in the general trend since 1958 of declining VFL attendances. Attendances are now back to the level of 1975-77.

#### IMPORTANT ECONOMIC FACTORS:

To predict the trend in VFL attendances we need to relate VFL attendances to the wider socio-economic context, and attempt to explain why attendances have fluctuated in the way they have as depicted by Figure 2. Our analysis concentrates on two economic variables: real incomes, and the real price of admission to a match. Other variables, drawn from the game itself, are shown to play a lesser role in explaining attendance figures.

We used Average Weekly Earnings deflated by the Consumer Price Index to get a measure of real income. This is graphed in Figure 3. With a lag of one or two years this series fits well with the broad pattern depicted in Figure 2. In the early 1950s incomes were fairly steady. Allowing for a lag before the impact of rising incomes started to be felt on attendances, the pattern of this graph matches the period of 1950-57 in Figure 2 when attendances were 7.5-8.0 percent of Melbourne's population. Australia then entered a period of growth in real incomes, which ceased about 1975. This long period of quite steady and consistent rises in incomes co-incides with the period of falling VFL attendances which came to an end in 1977 (again a two year lag in the effect of incomes on attendances is apparent). From 1975 to 1980 incomes remained fairly steady, and VFL attendances revived. In 1981 incomes jumped by 3.7

percent to a new level; with a lag of a year attendances fell in 1982. A comparison of Figures 2 and 3 has yielded a strong correlation between attendance decline and real income rise. Does correlation 'necessarily mean causality? We think yes. A good case can be made for VFL football being perceived as an inferior good in consumers' expenditure.

As real incomes have risen over time other leisure opportunities, including other spectator sports, have opened up for people. The VFL faces increased competition from other sports and leisure pursuits which increased community incomes have made more attractive and affordable. As well, people's expectations have grown with their incomes and they are increasingly reluctant to stand in the outer at a football ground in the mud and rain of a Melbourne winter to watch their team play. Other new and more comfortable attractions beckon. Although the VFL and the clubs have made efforts to improve facilities at most grounds, these improvements are probably lagging behind spectators' aspirations. Greater, more extensive, efforts are required to address this problem. The expense involved is a major argument for ground sharing and rationalisation, so that the expensive, improved facilities, offering spectator comfort receive greater utilisation.

The choice of a real price variable is less straightforward. The VFL has used a number of pricing policies and varied the method of admission over the years. Entrance can be gained via club membership tickets, family and pensioner concessions and reserve seat tickets (which attract a premium at some stadia). However, the most relevant price in terms of its being the price paid by most spectators is the ordinary adult admission price (and its equivalent the outer-ground price prior to 1972). To calculate real price this series was deflated by the Consumer Price Index and the extent of increases is portrayed in Figure 4.

The picture is one of exponential growth, with some fluctuations, in real admission prices. Prior to 1970 the increase is slow, but after 1970 prices rise markedly. We would therefore expect to see the impact of prices on attendances most clearly in the years after 1970. Note the price peak in 1975, which was not exceeded until 1981. The break in the price increase trend, with real prices falling in 1976 and 1977 and remaining below the 1975

level until 1981, echoes the arresting of the decline in attendances in the late 1970s and the revival to 1981. The 22 percent real price increase for 1981 was felt in 1982 when attendances fell 13 percent after four years of rises. A further large increase in prices was effected in 1983 and attendances continued to decline.

It is possible that a threshold was passed in the 1981 price increase, in which case the real price in 1980 may be close to optimum. The impression gained from Figure 4 is that real price has been less important than real income in affecting attendances but nevertheless attendances are affected in the year following a significant real price rise.

#### OTHER IMPORTANT NON-ECONOMIC 'FOOTBALL' FACTORS:

It is often asserted that, more than any extraneous factors such as income levels or price, the game itself is the prime stimulus for attendance. A corollary often drawn from this is that the fortunes of certain teams, the unevenness of the competition, changes in the rules and the like can explain the fluctuations in attendances.

It is our contention that this is much less true than is usually believed. As seen above, income levels and price play a major role in determining attendances in the aggregate over time. At the level of individual games it is obvious that such game-based factors as listed above do play a major part in determining the attendance, but this importance at the individual match level does not translate to the aggregate level of annual total attendances.

We investigated a number of these game-based factors, only to find them having an insignificant impact on annual attendances.<sup>5</sup> It does not make much difference how many games the most popular teams (Carlton, Collingwood, Essendon, Richmond) win, nor how many of them qualify for the finals series. The evenness of the competition also seems to have minimal effect. The attendance peak in 1981 co-incided with a particularly uneven year on most measuring yardsticks, contrary to theories that an even competition will attract crowds.<sup>6</sup>

There is one football factor which does have some effect on

attendances, although a surprising one. This factor is the success of the Collingwood club. Collingwood is the most widely supported and historically the most successful club in the VFL. Its followers are a by-word for fanaticism and desire to win. It is often asserted by the VFL that "what is good for Collingwood is good for football" and there is a perception abroad that attendances will increase when Collingwood does well and fall when Collingwood does poorly. In fact, we found the opposite often occurring.

Figures 5 and 6 chart the success or otherwise of the Collingwood team since 1950 as measured by their position on the ladder at the end of the season and the number of games which they won during the season. Many of the sharp jumps on these graphs coincide with small perturbations in the attendances (Figure 2). For example, Collingwood finished second in five of the six years 1951 to 1956. The exception was 1954 when they finished seventh. In 1954 attendances rose to a level above the other years in this period. Again, in the long decline in attendances from 1958 to 1977 there is a noticeable break in the years 1961-63 when attendances recovered briefly. In those same years Collingwood finished 9th, 7th and 8th - well down the ladder. In 1964 a run of more successful years for the club began, and total VFL attendances resumed their decline. More recently, in 1976 Collingwood hit the bottom of the ladder and attendances ceased declining and reached a local peak. The next year attendances were down as Collingwood bounced back to the top of the ladder.

A possible explanation for this perverse Collingwood factor may be found when we combine the limited ground capacity of the Collingwood home ground and the large Collingwood following. Irrespective of how well Collingwood is performing there is little variation in attendances at Collingwood home-games and the greater bulk of spectators at a Collingwood home-game are Collingwood fans. However when Collingwood is doing badly all the Collingwood-haters (of which there are many) are attracted to Collingwood away-games in anticipation of and expectation of a Collingwood loss. Thus it is better overall when Collingwood is doing worse rather than better.

This Collingwood factor is smaller in effect than the economic factors described above, and it may be fading in its significance.

The fluctuation in attendances in the period since 1978 is more related to the real price of admission and the effect of Collingwood's fortunes is not as discernible as it is previously. Nevertheless the Collingwood factor is still important.

Another important 'football' factor, perceived to have affected attendances, is the move of the South Melbourne club interstate in 1982 to become the Sydney Swans. This relocation co-incides with the start of the latest decline in attendances. Despite this, our analysis suggests that other factors are at work here and can explain a greater proportion of the decline. To elaborate briefly. Attendances at Sydney Swans home games vary little from the rather poor home-game attendances that South Melbourne 'enjoyed' in the years prior to the relocation. However it is clear that Sydney Swans away-games played in Melbourne attract fewer spectators than did South Melbourne away-games prior to the relocation. However some of the disaffected South Melbourne fans have adopted other clubs or attend matches other than Sydney Swans games played in Melbourne. The net effect of the relocation is therefore a marginal decline in overall attendances. We therefore believe that it is still possible that the move to Sydney may turn out to be successful; the evidence is not yet conclusive one way or the other.

#### CONCLUSIONS:

The debate surrounding the recent decline in VFL attendances has thrown up some interesting views that range over a number of issues but little attention has been addressed to the role played by important economic factors over time. The purpose of this paper is to demonstrate how a time-series analysis using annual attendance data over a reasonably long period of time enables the influence of two important economic variables, real income and real price to be assessed.

From our analysis we are satisfied that real income has had a significant negative impact on attendances. The increase in community incomes has introduced the Melbourne football spectating public to a wider choice of leisure pursuits including both spectator and participator sports. VFL football now faces stiffer competition for the leisure dollar. The VFL must face up to this

important result which means that the VFL has to raise the community's perception of the sport most particularly by improving the facilities at various stadia. It is clear that stadia improvements have lagged behind community aspirations. Our findings would therefore tend to support the 'Task Force' recommendations regarding ground rationalisation in order to provide the best facilities for the spectating public in the most cost effective manner.<sup>7</sup>

The results from our analysis of price need caution in their interpretation. The VFL may have a pricing problem. It may well be that the rate of growth of real price increase in the period since 1970 has had a negative impact upon attendances. Further study of this question is necessary. One of the areas for future research is an analysis of VFL attendance behaviour round by round for a given season. It may well be that the VFL could experiment with a more flexible pricing schedule with special reduced prices for games played in July and August when attendances seem to fall away markedly. This is a tentative suggestion at this stage requiring further detailed analysis which the VFL should undertake. What is clear from our study is that the VFL may have reached something close to the maximum real price it can expect and is in danger of experiencing considerable price resistance from the spectating public.

Of the non-economic, 'football' factors we are satisfied that only the Collingwood factor provides cause for concern. It is clear that the VFL foregoes spectator attendance and therefore revenue mainly because of the limited size of the Collingwood home-ground, Victoria Park. A radical suggestion here is to relocate Collingwood home-games to VFL Park with its 75,000 seating capacity on a permanent basis.<sup>8</sup> VFL Park could therefore be used on alternate weeks to play other games or be used by another club (perhaps Fitzroy) to play its home games.

The results reported here demonstrate the importance played by key economic variables and also demonstrate the usefulness of this sort of research. This is the sort of research that the VFL must do in order to make appropriate decisions covering such things as price and stadia improvements. We believe that an alternative research strategy of examining attendances on a round-by-round basis through the year would throw up additionally useful findings and

allow for the assessment of some other variables (e.g. weather) which we could not consider. As well this could be further complemented by a survey of the football spectating public's attendance behaviour.

#### NOTES:

1. This article is an abbreviated version of a more technical paper, C.L. Morley & K.G. Wilson, "The Demand for Australian Rules Football: A Time-Series Analysis" (mimeo, 1985) which is available from the authors on request. That paper details the econometric techniques used to simultaneously assess the influence of economic and non-economic factors upon VFL attendances over time. This article is written for a more general readership.
2. R.K. Stewart, 'The Economic Development of the Victorian Football League 1960-1984', *Sporting Traditions* 1.2 (1985), 2-26.
3. Attendance figures and other VFL data came from Victorian Football League, *87th Annual Report: Season 1984* (Jolimont, 1984) and *VFL Year Book 1984* (Jolimont 1985). Data on average weekly earnings and the consumer price index were taken from W.E. Norton & P.M. Garmston, 'Australian Economic Statistics 1949-50 to 1982-83: I Tables' *Reserve Bank of Australia Occasional Paper No. 84* (Sydney, 1984) updated from *R.B.A. Bulletin* Dec. 1984/January 1985.
4. Morley & Wilson *op.cit.*
5. For example, the ground shift of the Richmond club to the MCG, the building of VFL Park and the ground shift of the St. Kilda club to Moorabbin were expected to have positively affected attendances but all turned out to be insignificant.
6. For a discussion of these theories see O. Covick, 'Sporting Equality in Professional Team Sports Leagues and Labour Market Controls: What is the Relationship?', *Sporting Traditions* 2.2 (1986), 54-73 and references therein.
7. In 1984 the VFL established a 'Task Force' of notable Melbourneans to investigate problems of the VFL. The Task Force brought down an interim report and then a final report in

early 1985. Some of the 'Task Force' recommendations have been adopted whilst others have been eschewed.

8. It is worth noting that the Carlton-Collingwood game played at VFL Park in 1983 attracted a crowd of 69,596, well in excess of the 36,000 (approximate) capacity of either the Carlton or Collingwood stadia.