



Norsk Toppfotball

League structure optimization

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HYPERCUBE
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Table of Contents

Executive summary	5
1 Introduction.....	12
1.1 Norwegian football: how to bend the curve?	12
1.2 Instruments to increase sporting performance	12
1.3 Research questions and scope	14
1.4 Structure of the report	14
2 Norwegian football stakeholders	16
2.1 Project organisation	16
2.2 Stakeholders and experts.....	16
2.3 Perception of the current state of Norwegian football.....	17
2.4 Objectives and how to get there.....	20
3 Calendar	22
3.1 Available match dates	22
3.2 Summer or winter season	23
3.3 A combined approach with Tippeligaen and NM Cup.....	24
4 The economics of Norwegian football	26
4.1 The sports economics cycle.....	26
4.2 Sporting quality	28
4.3 Benchmark groups.....	31
4.4 Attendance	34
4.5 TV audience	36
4.6 Revenues	41
4.7 Costs	42
4.8 Impact of improving sporting performance	43
4.9 Comparison with other countries	44
5 Result dimensions	48
6 The pyramid structure.....	50
6.1 Alternatives	50
6.2 Results	51
6.3 Conclusions.....	51
7 Evaluation of the current competition format.....	54
7.1 Round-robin with 16 teams.....	54
7.2 Strengths and weaknesses	54
7.3 Guiding principles when designing alternatives.....	55
8 Evaluation of alternative competition formats.....	57
8.1 Alternative formats	57
8.2 Results	61
9 Conclusions and recommendations	70
9.1 Pyramid structure.....	70
9.2 League format	72
9.3 Summer or winter season	75
9.4 Transition season.....	75

Appendix I. Glossary	78
Appendix II. Impact of the Fair Play Ticket.....	81
Appendix III. Performance of Norwegian clubs in Europe	82
Appendix IV. Average age of selections throughout Europe	83
Appendix V. Impact of artificial turf on sporting results	84
Appendix VI. Betting.....	85
Trends and developments.....	85
Critical success factors.....	85
Appendix VII. Alternative formats.....	87
Round Robin formats	87
Belgium type formats	87
Portugal type formats	88
Split model formats.....	88

Sum- mary

Executive summary

Norway is a very sport-minded country. Football and the winter sports are very popular. But Norwegian football has seen a downward trend in the past couple of years. Sporting results on the international stage have fallen. The national team qualified for the FIFA World Cup in 1998, and for UEFA EURO Nations Cup in 2000, but not since. And while Norway was listed 18th on the UEFA Country Ranking in 2007, it is now only on 27th position. The last time a Norwegian club qualified for UEFA Champions League Group Stage was back in 2007/08, by Rosenborg BK.

Things could clearly be better and there's a loud and clear call to action. There are several instruments to increase the sporting performance of both the league as well as the national team. The instruments can be divided in four categories:

- Increase revenues of professional football
- Better allocation of money to the cost departments
- Alter the licensing criteria at different levels
- Improve the competition model

This report describes the project that investigated the last bullet: which pyramid structure and which competition format are best for Norwegian football? Another important question was concerned with the calendar: would it be better to change to a winter season?

Norwegian football stakeholders

The project was commissioned by TFU, representing both the NFF and NTF. A working group was responsible for conducting the project, and consisted of representatives from the leagues, the clubs, Toppfotballsenteret, Football media and was supported by Hypercube.

Also, much valuable input has come from the conversations with stakeholders and experts. We interviewed many people about their perception of the current state of Norwegian football, and their ideas for improvement. There appears to be a broadly shared feeling that the competition format could be improved, so as to create more interesting matches and give Norwegian football new spirit.

Calendar

The ideal number of matches per club is 32. Matches are usually scheduled between halfway March and halfway November, such that the winter months are free, shying away from competition with the winter sports. For a competition format that requires more rounds of matches, the scheduling might become squeezed.

But wouldn't it be better to change to a winter season? That would bring Norway in tune with the rest of Europe, and might have a beneficial impact on the performance of Norwegian clubs in the European club competitions. But this advantage is outweighed by the disadvantages: in a winter season the best months of the year cannot be fully utilised, while the need arises to schedule more matches in the winter months.

However, a combined approach with Tippeligaen and NM Cup could be a good solution. Then the Tippeligaen remains a summer season, while NM Cup switches to a winter season. The major advantage is that the exciting last rounds of the (new) competition won't interfere with the exciting Cup Final.

The economics of Norwegian football

In general, sporting quality on pitch is rewarded by higher attendance and TV audience. This in turn drives up (sponsoring) revenues, and this money can then be invested in the squad, so as to sustain or enhance the sporting quality. By means of data analysis, the specifics of these dynamics, the trends and the critical success factors have been explicated for Norwegian football. These have been used in creating and evaluating alternative competition formats.

Result dimensions

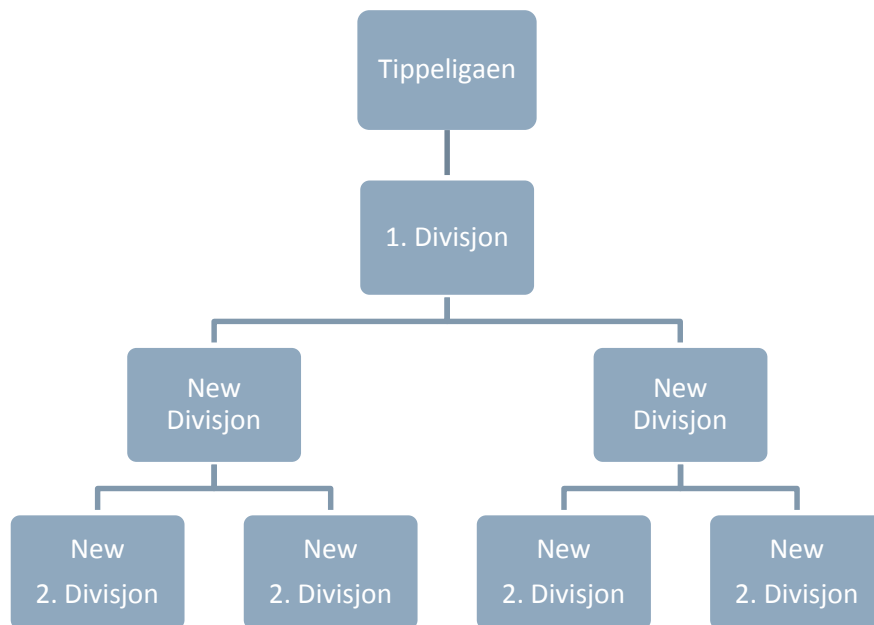
Result dimensions are those aspects of a competition format that determine if it is to be valued as a good format or not. All Norwegian clubs from Tippeligaen and 1. Divisjon have been consulted about what they think is important to take into account. The sporting aspect is most important (30,6%), and other result dimensions are revenues (26,4%), calendar (12,1%), attendance (11,4%), fairness (10,0%) and TV audience (9,5%).

Pyramid structure

The current pyramid structure can be summarized as 1+1+4. Tippeligaen consists of 16 clubs, just like 1. Divisjon, while 2. Divisjon consists of 4 times 14 clubs. Various alternatives have been evaluated on their impact on sporting quality, competitive balance, distance (costs) and promotion/ relegation.

	Sporting quality	Competitive balance	Distance (Cost)	Promotion/ Relegation
Current structure	0	0	0	0
1+1+1+2	++	++	-	++
1+1+1+3	+	+	-	+
1+1+1+4	+	+	-	+
1+1+2+4	++	++	0	++
1+1+3	+	+	-	+
1+2+4	--	0	+	+

Overall, it turns out that 1+1+2+4 is the best solution for the pyramid structure.



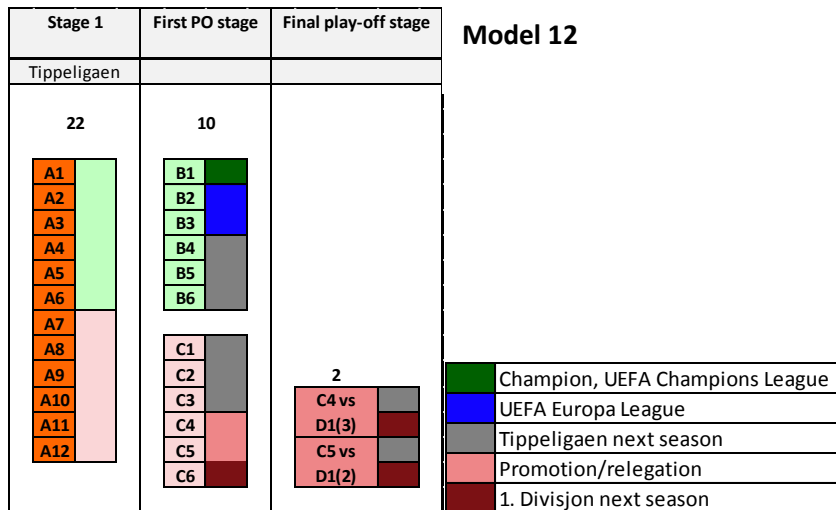
Evaluation of the current competition format

The current competition format is a round-robin with 16 teams: each team meets every other team twice, home and away. A strength of this competition format is the clear structure and fairness. But weaknesses are that there is only one apotheosis, towards the end of the season midrange clubs have nothing play for any more, and there are quite big differences in sporting strength.

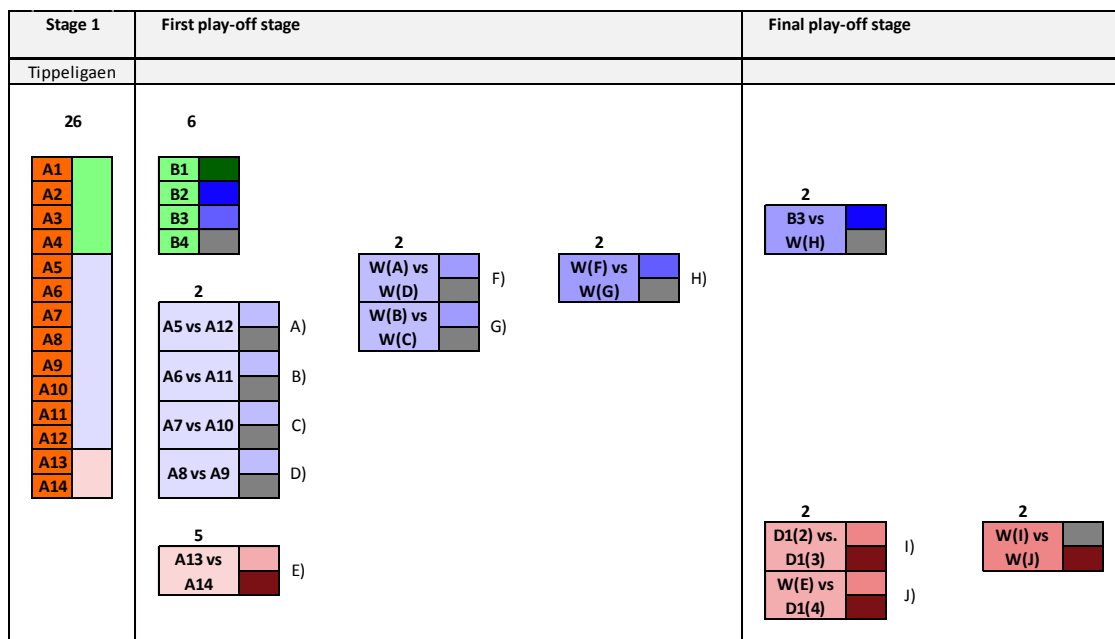
Evaluation of alternative competition formats

A lot of alternative competition formats have been designed and analysed. After a first selection, 3 alternatives remained and we looked for minor adjustments for optimization. These formats are:

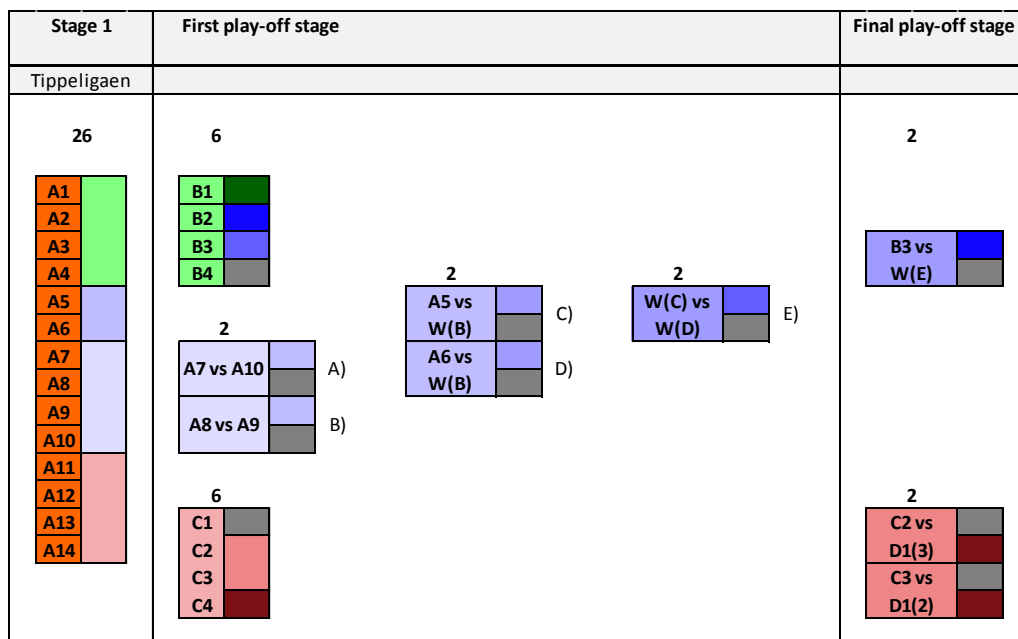
- Model 12, with 12 teams in the Tippeligaen, which after a regular round-robin are divided into two groups of six, which again play a regular round-robin.
- Model 14A, with 14 teams. After a regular round-robin, the top 4 teams enter a group playing for the championship. The middle 8 teams enter a knock-out tree, which eventually gives them a second chance to qualify for a European ticket. The bottom 2 fight against relegation.
- Model 14B, with 14 teams. It is very similar to Model 14A: after a regular round-robin, the top 4 contend for the championship. Then, the middle 6 teams enter a knock-out tree. And the bottom 4 fight in a group against relegation.



Model 14A

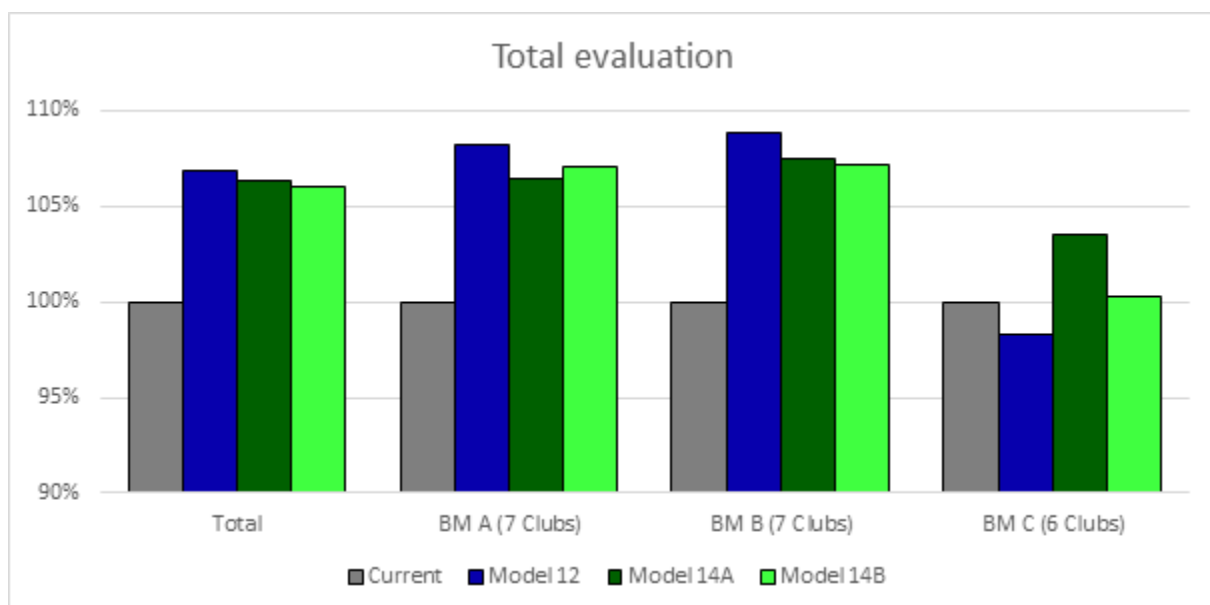
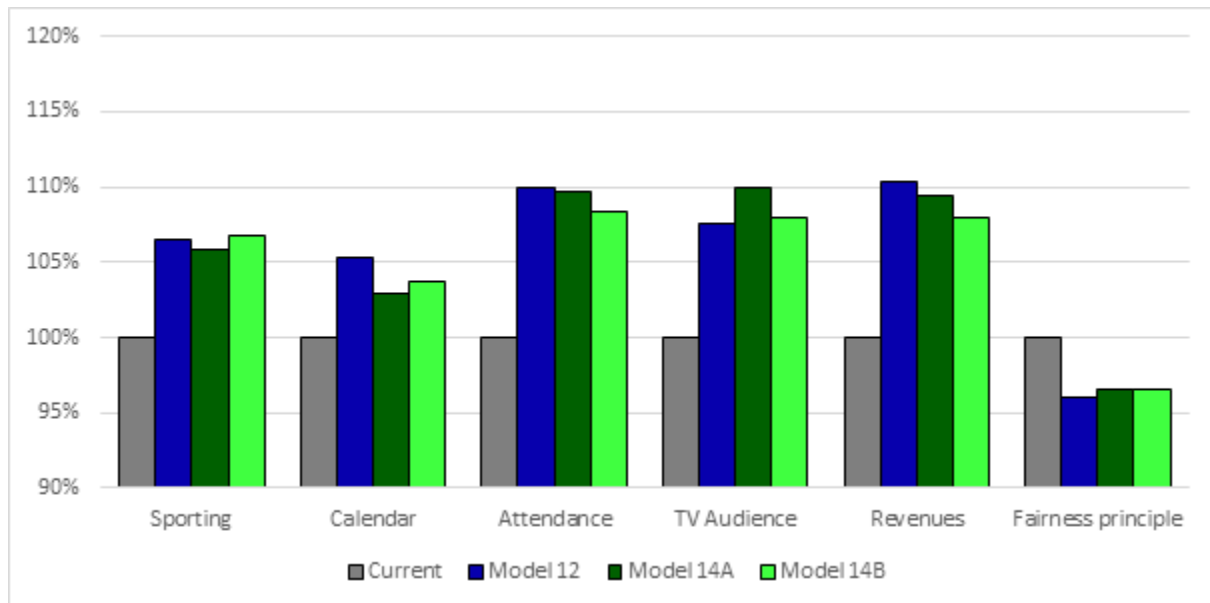


Model 14B



It turns out that these models are all three excellent alternatives. While the current format is best with respect to fairness, the alternative competition format would be a major improvement with respect to the sporting aspect, and give a boost to attendance, TV ratings and revenues.

Overall, Model 12 comes out best, though by very margins. For top clubs and midrange Model 12 is best, while Models 14A and 14B are also a significant improvement compared to the current format. For clubs that now play in the bottom of Tippeligaen or in 1. Divisjon, Model 14B is more or less equal to the current format (it really depends, if these clubs participate in the Tippeligaen they will benefit from an improved competition format), while in Model 12 they most likely play in the 1. Divisjon.



Whichever format will ultimately be implemented, it is bound to be a major improvement over the present format. It will give a boost to Norwegian football:

- The sporting performance of the top 20 teams will increase with an average of 100 – 125 ECI points

- The sporting performance will lead to a climb of the UEFA Nations ranking for club teams with 5 to 10 spots
- Total revenues will increase with about 150 million NOK
- Match attendance will increase with smaller clubs 5 – 10% and bigger clubs 10 - 20%
- TV audiences will increase with 8 - 10%.

This comparison depicts the relative impact of the innovation. The absolute values are dependent on many exogenous to Norwegian professional football factors.

So at this stage of our project we still have three excellent alternatives. We recommend to use the month of November to select the best of the three on the basis of the reception amongst the stakeholders. Hypercube will formulate their final management advice after having listened to all stakeholders during the month of November.

1

1 Introduction

1.1 Norwegian football: how to bend the curve?

Norwegian football has seen a downward trend in the past couple of years. Sporting results on the international stage have fallen. The national team qualified for the FIFA World Cup in 1998, and for UEFA EURO Nations Cup in 2000, but not since. And while Norway was listed 18th on the UEFA Country Ranking in 2007, it is now only on 27th position. The last time a Norwegian club qualified for UEFA Champions League Group Stage was back in 2007/08, by Rosenborg BK.

These results indicate that Norwegian football as a whole is facing a downward trend in sporting quality. This is reflected in the attendances in the domestic leagues. The average attendance in the Tippeligaen was over 10.000 in 2007/08 and is now less than 7.000. It is worth noting that, regarding the relatively small population (5 million), these numbers are still top-notch: in England (including Wales, 56 million) the average attendance is 36.000.

Still, things could clearly be better and there's a loud and clear call to action. Norsk Toppfotball initiated several projects to strengthen the clubs and to get youth development to a higher level. It wouldn't be a realistic ambition to get to the levels of the English Premiership or the Spanish top clubs, but Norwegian football might get back to the level of 2007/08. The role of Norwegian football in the European football hierarchy, which is nowadays determined by money to great extent, could be that of being home to Europe's talents and next generation's top players.

And since Norway is crazy about sports, and football is indeed still very popular, there is plenty of potential for realizing that ambition.

1.2 Instruments to increase sporting performance

There are several instruments to increase the sporting performance of both the league as well as the national team. The instruments can be divided in four categories:

- Increase revenues of professional football
- Better allocation of money to the cost departments
- Alter the licensing criteria at different levels
- Improve the competition model

1.2.1 Increase revenues of professional football

If more exogenous money flows to football, this could benefit the quality on the pitch. For instance, the extra revenues can be used to keep the good players in Norway for a longer time, or to attract better foreign players. The former will also result in higher transfer values once these talented youth do make the move to abroad, so actually this could be a healthy investment.

Revenues can be increased by better exploitation of the catchment areas. The use of data, which are abundant nowadays, could give the clubs insight in their market as well as the possibility to monitor the success of different marketing actions. Finding out which industries and branches of business are

most interested in football, and then focussing on these markets, could well pay off. It is important always to keep in mind the catchment area and to align the sporting ambitions of the club with its potential.

1.2.2 Better allocation of the cost departments

Money should be spent such that the returns are best. Costs should be spread in a balanced way over player wages, but also technical staff and youth development programs. Also the player wages should be in line with their performance.

Some clubs might think that salary caps is a good instrument for controlling the salary costs. But the effect of a salary cap is that the gap between the great players and the mediocre players of a squad is too small. Resulting in a situation that the best players leave the club and the mediocre players stay for a salary that is too high according to their performance.

Another way to control the salaries is to find a balance between the number of foreign players and the development of own youth players. Foreign players are most of the time more expensive than native players of the same quality, therefore a good balance between these groups of players is required.

1.2.3 Alter the licensing criteria at different levels

Licensing criteria can help to make sure that clubs spend their money to the right departments. Each level should have their own criteria. Ideas for licensing criteria are for instance:

- Maximize the amount of money (as percentage of the total costs) spend on salaries
- Minimize the number of youth players in the selections
- Minimize the number of full professional players
-

1.2.4 Improve the competition model

The league structure is an element that could give new impetus to Norwegian football, and help to bend the curve, both on the sporting dimension and regarding the attendances. A good league structure ensures that the matches are attractive, that there are as few dead matches as possible (with nothing at stake, one of the clubs has nothing to gain), and many tense matches between rival clubs (instead of very predictable matches).

An optimized league structure will draw more people to the stadiums, will draw more media attention, which gives a boost to sponsorships and income, and so helps clubs to sustain the strength of their squad.

If a transformation of the Tippeligaen is successful, it will also be more interesting for young talented players to stay and learn for another year in Norway instead of getting a transfer to abroad. And that could be the key to getting stronger on the international podium.

Also, the pyramid structure comprising Tippeligaen, 1. Divisjon and the four leagues in 2. Divisjon, could be optimized, such that the quality and the flow through of Norwegian football will increase.

This report describes the project that investigated the last bullet: which pyramid structure and which competition format are best for Norwegian football?

1.3 Research questions and scope

The quest for an optimal league structure consists of three questions:

- What is the best pyramid structure?
- What is the best competition format? The focus is on Tippeligaen, while 1. and 2. Divisjon are also within scope.
- Should Norway stick to the summer season, or should it switch to a winter season?

The project started in March 2014 and the results are presented in this report. The proposed alternative pyramid structure and alternative league structures are presented to the General Assembly of Norsk Toppfotball and then, for ratification, to the Norges Fotballforbund in March 2015.

Hypercube's responsibilities during the process have been to assist the NTF/ working group, including the participation of all stakeholders, and to carry out the quantitative analysis.

1.4 Structure of the report

This document reports the result of the process to leading up to a proposal for a new league structure. Chapter 2 describes the project organisation and the major threads that have come to the surface in interviews with all the stakeholders. Chapter 3 gives an overview of the calendar and the bounds within which a new league structure should be scheduled. It also deals with the question whether to change from a summer season to a winter season.

Chapter 4 presents the results of Hypercube's data analysis: the trends, correlations and critical success factors. We also compare the outcomes to similar figures from other countries. It is worth noting that in section (4.3) the division of all Norwegian clubs into benchmark groups is presented. This is important because a league format or pyramid structure may be beneficial for, say, top clubs but not for bottom clubs, which should be taken into account when evaluating alternative formats.

Then chapter 5 gives an overview of the result dimensions, which will be the measuring rods for our evaluation of alternative league structures. Chapter 6 presents the alternative pyramid structures and their evaluation. Chapter 7 presents the evaluation of the current league structure, and chapter 8 deals with the alternatives.

In chapter 9 the conclusions are presented and we quickly look ahead at the implementation of our recommendations through a transition season.

2

2 Norwegian football stakeholders

2.1 Project organisation

The project is commissioned by TFU, the body where NFF and NTF are represented. The project owner is Leif Øverland (Norsk Toppfotball).

The working group is the central institution responsible to keep the process going. The input from all clubs and from external stakeholders and experts is prepared beforehand and processed afterwards by the working group.

The working group consists of representatives from the leagues, the clubs, Toppfotballsenteret, Football media and is supported by Hypercube. The working group consists of:

- Jo Bergsvand (head, Norsk Toppfotball)
- Are Hokstad (Norges Fotballforbund)
- Dag Halvorsen (Divisjonsforeningen 02)
- Kenneth Karlsen (Mjøndalen)
- Roald Bruun-Hansen (Brann)
- Tarje Jacobsen (Molde)
- Egil Mundal (Sogndal)
- Espen Olafsen (Toppfotballsenteret)
- Hallbjørn Saunes (Footbalmedia)
- Pieter Nieuwenhuis (Hypercube)
- Erik van Spanje (Hypercube)

2.2 Stakeholders and experts

Much valuable input has come from the conversations with stakeholders and experts. Below we recapitulate the most important threads, first their perception of the current state of Norwegian football, and subsequently what they think is the right way now to go for Norwegian football in general and for the league structure in particular.

Some things are not directly relevant to the main issue under concern here, the league structure. Also, not all opinions are necessarily true, but it is always worth listening, because people are nonetheless driven by those opinions.

Many things can be checked by looking into the data. For example, if people say they prefer a kick-off time in the evening over a kick-off time in the afternoon, this can be confronted with data about spectators et cetera. It might then turn out that there is greater interest in matches scheduled in the afternoon, even though people advocate something else. In the sections below we just mention all the input, and in chapter 4 we report the results of the data-analysis.

The stakeholders that were consulted in the process include:

- Clubs
- Players Union
- NSA (Norwegian Supporters Union)
- NFF
- NTF
- TFU
- Norsk Tipping
- Sponsor Insight
- C-More
- Canal Digital
- TV2
- Telenor
- Police
- Icons from the sport
- Journalists / anchor men

2.3 Perception of the current state of Norwegian football

There is a general feeling, shared by many people, that there are too many clubs in the highest two divisions. This feeling already points to a solution for the league structure, namely reducing the number of clubs, but this might prove too blunt and it is important to get a sense of the underlying reasons for this feeling. There are actually a number of different reasons, which are described below.

Interesting matches

First and foremost is the observation that quite a lot of matches are not really interesting. The Tippeligaen was extended from 12 to 14 to 16 teams. The result was, of course, that there are more matches, as desired. But the additional teams naturally played in the lower ranks, which means that on average the sporting quality decreased and the difference in quality between teams at the top and at the bottom increased. The result is that there are quite a lot of matches which aren't really interesting.

Another observation, mentioned by the supporters, is that there are only few derbies.

Sporting quality

Secondly, the sporting quality of Norwegian football is under pressure. This observation stems not just from the fact that relatively weak teams were added to the Tippeligaen as the number of participating teams was extended. It is an autonomous trend that the quality of Norwegian football has decreased. The big clubs don't deliver, which shows most prominently in the European club competitions. The downward trend is also true of the national team.

As an aside, it was mentioned that it isn't always the case that the clubs that participate in the European competition are the best Norwegian teams. In the current fashion, the Fair Play ticket may not be beneficial to the ranking of Norway on the UEFA Country Coefficient.

Another important observation, shared by many, is that there is a gap between the bottom of the Tippeligaen and the top of Divisjon 1. The gap is too big.

Finally, the players wondered whether the performance of clubs is affected by the fact that they play on artificial grass or on natural grass. This has been looked into by means of statistical analysis, and the results are reported in Appendix V.

Norwegian players

The number of good Norwegian players decreased. Moreover, there are quite a lot of foreign players who aren't outstanding either. A broadly shared opinion is that foreign players should be of additional value or otherwise it would be preferable to give young, talented players the chance to step up a level. This raised the question why clubs hire those foreign players? Perhaps they overestimate the capacities of those players.

Talented players

A concern voiced by many is that talented players leave the Norwegian clubs too soon. It is understood and accepted that they move to bigger clubs in Europe (with more money) at some point in their career, but at present it is not uncommon that they make a transfer to a mediocre club in Germany, for example. This means that sporting quality gets lost for the Tippeligaen, while it is questionable whether those talented players make the best choice for their career. Wouldn't it be better for them if they get more experience in Norway first and then to move to a genuine top club, instead of leaving soon to a mediocre club abroad?

Why do these players make such choices? Why aren't the Norwegian clubs their stepping stones? There might be a self-reinforcing process at work here. It was pointed out that talented players are spread out over many clubs. They don't come together at the big clubs. This might be one of the reasons why the big clubs don't deliver, while that in turn might be a reason why they are not that attractive to those talented players.

The roots of this could well be found in a cultural trait. Norway is a very egalitarian society, and this is reflected in only minor differentiation of wages between clubs and, within clubs, between the star players and the substitutes.

Kick-off times

There are too many different kick-off times. Matches are played in weekends as well as midweek and Fridays and Mondays, and there are different kick-off times in the afternoon and the evening. The audience is at the moment not satisfied with the spread of the matches. The reason for this is that the broadcaster wishes for many time slots, so as to be able to have many matches live on air.

The perception is that Sunday evening is the best kick-off time, just before Saturday evening and afternoon. Weekdays are difficult for away supporters, including Fridays. The bookmakers aren't enthusiastic about Monday matches either, but the timeslot prior to the Monday match in England is good for TV.

Besides Mondays, other weekdays are all right for the bookmakers. Players want variation in playing in the weekends and midweeks. Clubs suggested to play league matches in the weekends as much as possible and play cup matches on weekdays.

Later kick-off times are better than early kick-off times, and too many matches start early. This was stressed by Norsk Tipping.

Winter break

TV2 said that it is better for the TV figures to start the competition in April instead of March, because people prefer to watch winter sports on television in March over football. Yet, the winter break is actually quite long and causes attention to football to wither away in the meantime. Then, when the competition finally starts, shortly after there is week in March designated for national teams – a hiccup which is counterproductive to getting the attention to the league.

So the ideas about the winter break point in opposite directions: on the one hand it is too long, on the other hand, shortening the winter break implies fierce competition with the winter sports, which are, needless to say, very popular in Norway.

Public safety

Public safety is under control, there have been only few problems in recent years. Police stressed that supporters should feel welcome inside a stadium and shouldn't be treated like criminals.

Clubs

The broadcasters have a big influence on the match scheduling. Should we leave it that way or have we been too much focused on the media value and can we win back stadium attendance by changing kick-off times and match days?

Should we listen more to the big clubs? These clubs are the flagships in Europe, so we should create an environment where the big clubs can perform optimally.

Has the licensing system the effects that we want or are they too strict or too loose?

Distance

The travel distance between clubs is a problem for away supporters. The problem is mainly the travel time in combination with matches scheduled on week days. The travel distance is not of primary concern for the clubs, even though there are travel costs and time involved on their side as well.

2.4 Objectives and how to get there

How to improve Norwegian football? Given the above observations, the following means and ends have been suggested.

- The major task is to strengthen the sporting quality in the Tippeligaen. Ideally, this will make sure that the big clubs perform better in European club competitions. The question is whether it is sufficient to get all clubs a little bit better, or whether a steeper gradient is the only way to achieve this goal, so as to allow for greater difference in sporting strength between the clubs at the top and at the bottom ranks.
- Then, it is also necessary to create more interesting matches.
- Divisjon 1 should be the arena for player development.
- Try to keep the talented players longer in Norway.
- Try to create a more consistent schedule every week and every weekend, and try to create it such that there is a Saturday/ Sunday feeling.
- Create heroes and local identity, as that could be a way to hold on to the talented players longer.
- Sell the media rights for a longer period than 4 years, so that the broadcaster has the time to develop a proper strategy and to adapt to the public's wishes.
- Play the first and last few matches of the season indoors, so as create more match dates and to make it more pleasant for the spectators while winter dictates outside life.

3

3 Calendar

3.1 Available match dates

The picture below shows the calendar for 2014 thru 2018, and includes all match dates that have been scheduled already. It is not allowed to schedule the Tippeligaen on dates reserved for football by national teams or for UEFA Champions League or Europa League.

The winter break is normally from November until March. As can be seen, the last week of March is usually reserved for the national team. This implies that, when the season starts in March, there is a two-week break after the first rounds.

Skiing world cups are usually scheduled from the end of October until halfway March (alpine skiing), or halfway November until the end of March (ski jumping), or the end of November until halfway March (cross-country).

The period from halfway March until the beginning of November counts 35 weeks. About 4 weeks are reserved for the national team, and there should also be room for in the calendar for the NM Cup. With the current competition format, most clubs play 30 matches (only the club ending 14th plays two more matches to avoid relegation). In discussions with the clubs, it became clear that the ideal number of matches is 32. More matches implies that clubs need more players, and that will most likely give their youth players more chances on the highest level. But evidently, scheduling soon becomes a tidy job.

2014	J	F	M	A	M	J	J	A	S	O	N	D
Tuesday	7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30
Wednesday	1 8 15 22 29	5 12 19 26	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31
Thursday	2 9 16 23 30	6 13 20 27	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25
Friday	3 10 17 24 31	7 14 21 28	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26
Saturday	4 11 18 25	1 8 15 22	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27
Sunday	5 12 19 26	2 9 16 23	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28
Monday	6 13 20 27	3 10 17 24	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29

2015	J	F	M	A	M	J	J	A	S	O	N	D
Tuesday	6 13 20 27	3 10 17 24	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29
Wednesday	7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30
Thursday	1 8 15 22 29	5 12 19 26	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31
Friday	2 9 16 23 30	6 13 20 27	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25
Saturday	3 10 17 24 31	7 14 21 28	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26
Sunday	4 11 18 25	1 8 15 22	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27
Monday	5 12 19 26	2 9 16 23	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28

2016	J	F	M	A	M	J	J	A	S	O	N	D
Tuesday	5 12 19 26	2 9 16 23	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27
Wednesday	6 13 20 27	3 10 17 24	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28
Thursday	7 14 21 28	4 11 18 25	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29
Friday	1 8 15 22 29	5 12 19 26	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30
Saturday	2 9 16 23 30	6 13 20 27	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31
Sunday	3 10 17 24 31	7 14 21 28	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25
Monday	4 11 18 25	1 8 15 22 29	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26

2017	J	F	M	A	M	J	J	A	S	O	N	D
Tuesday	3 10 17 24 31	7 14 21 28	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26
Wednesday	4 11 18 25	1 8 15 22	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27
Thursday	5 12 19 26	2 9 16 23	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28
Friday	6 13 20 27	3 10 17 24	3 10 17 24 31	7 14 21 28	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29
Saturday	7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30
Sunday	1 8 15 22 29	5 12 19 26	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31
Monday	2 9 16 23 30	6 13 20 27	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	3 10 17 24 31	7 14 21 28	4 11 18 25	2 9 16 23 30	6 13 20 27	4 11 18 25

NTF TL	NM Cup	UEFA EL	UEFA CL	UEFA EC	National team	FIFA WC	IOC Olympics
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3.2 Summer or winter season

Should Norway stick to the summer season, or should it switch to a winter season?

The disadvantage of a summer season is that Norway isn't in tune with European club competitions. Norwegian clubs qualify for the European club competitions by the end of their domestic season (November) and then actually play in the European tournaments in July, August and the months that follow. That is eight months and two transfer windows later, and in the meantime the next domestic season is already halfway. The reigning champion that will enter Champions League Qualifications might not be as good anymore.

In other words, performance of Norwegian clubs in Europe might improve on changing to a winter season. The clubs that are best in May are more likely to perform well in July than the best performers of November last year.

An advantage of the summer season is that June and July – when the weather is good – can be utilized, while winter seasons in general have holidays and preparation on the next season in that period. Indoor stadiums can be a solution for the issues during the match, but they are not the solution for the weather impact on travel time towards the stadiums.

However, every other year summer season interferes with UEFA Euro Nation's Cup or FIFA World Cup. Winter seasons in general don't have this conflict, but, as we have seen, the number of available match dates does not leave much room. Switching to the winter season doesn't create new match dates on the calendar. In fact, since the contender for the European club competitions must be known by June, the winter season will have to finish by the end of May. Then, the next season has to start soon after ending the previous one, otherwise it isn't possible to schedule all matches.

New opportunities for the fixtures arise only if the season is extended to part of the winter months. Regarding practical matters, the use of indoor stadiums deals with the weather conditions during the match, but the weather does still affect travel time towards the stadiums and might have a negative impact on attendances.

Russia changed from a summer season to a winter season in 2011. The season 2011/12 was actually 1½ years long. They play until mid-December. Russia allows themselves to move home matches to other stadiums in the winter period. A quick look at the available attendance figures shows a major drop in December (8.900 while the average is 12.300) – but attendance doesn't necessarily play such a big part in the business model of Russian football.

Analysis of Norwegian attendances shows that the turnout decreases when approaching winter. The summer season allows you to keep the interference with the traditional Norwegian winter sports at a minimum.

3.3 A combined approach with Tippeligaen and NM Cup

An alternative would be to keep organising the competition as a summer season, but to switch to a winter season for the cup. Traditionally, the cup final is the last match before the winter break. By moving this final towards the spring, the final rounds of the competition and the cup don't interfere with one another, and each can get full attention of the public.

Also, the cup winner qualifies for Europa League Qualifications. This team is more likely to be in good shape when it actually plays these European matches in July or August if it qualified in May than if its qualification dates back from November.

Yet another advantage could be that grass roots clubs play their first cup matches in August, when the competition is already halfway. So these clubs play for the cup at a moment in the season when they are probably in – relatively – good shape.

A difficulty is that the European ticket are partly decided before the winter break and partly after. The final results of the competition are known by about November, while the cup winner is only known five or six months later. If the competition format includes play-offs to decide about the (last) European ticket, when should these play-offs be scheduled?

For example: the clubs ranked 3 and 4 enter play-offs for a European ticket, but the number 4 is also the cup winner, then the number 5 should enter the play-offs instead. Another example: suppose the cup winner was also runner-up in the competition, then it takes the best ticket for Europa League through the cup, the number 3 takes the next ticket, and the last ticket should be decided by play-offs between the clubs ranked 4 and 5 (instead of 3 and 4).

Fortunately, if the play-offs aren't too complex, there is always a feasible solution to this. For instance, play-offs should be played as usual (assuming that the cup final doesn't matter), and if it then turns out that the cup finalists already had a European ticket, that ticket goes to the first team in the competition that hadn't qualified.

So, while a change to winter season doesn't seem to be a good option, this combined approach to the league and the cup could well be good solution for Norway.

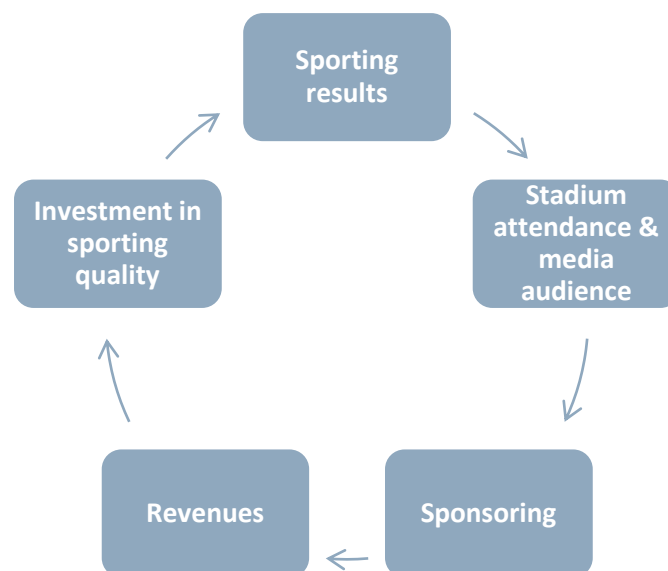
4

4 The economics of Norwegian football

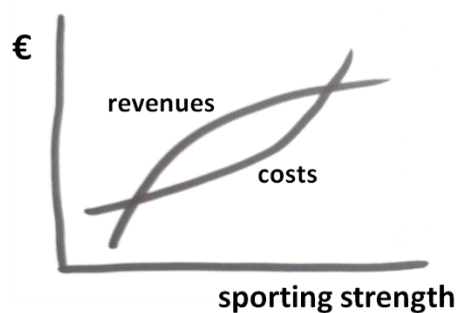
4.1 The sports economics cycle

In order to be able to make reliable predictions in sports, it is essential to capture the sports economics cycle. On improving upon your sporting strength, more fans will come to the stadium and will follow you online and on TV, which automatically makes you more attractive for sponsoring. These additional revenues will enable you to invest in the sporting strength. Or the other way around, a decline in sporting strength will make you perform worse in the other dimensions too.

Now this may seem like a vicious circle, either taking you through the roof or down the drain. But there are limits.



This chart below shows you the basics of a football club. It plots costs and revenues of a football club in relation to its sporting performance. The area where revenues exceed costs is where a football club has the opportunity of a profitable existence.



Costs

Playing at a higher level requires investments in the squad. As in any other industry, quality is expensive and outstanding qualities are even more expensive. A club that is already very strong, can improve only by hiring exceptionally talented players, and has to pay them accordingly. Therefore, the costs-curve gets steeper as sporting strength increases.

Revenues

On the bright side, by playing at a higher level the club will also attract larger attendances and more sponsors. Quality enhances revenues. But the economic resources of the club's catchment area, from which the club draws its fans and sponsors, are not inexhaustible. At some point, even though on the sporting dimension the club is still making progress and costs are rising, revenues will not increase accordingly. Therefore, the revenues-curve gets flatter as sporting strength increases.

At first enlargement of the catchment area might make up for this, but in the end football is quite a local business: Real Madrid will never have many fans in Barcelona. This means that there is an upper limit to the club's economics.

Bottom line

There are limits to a club's ambitions, not just an upper limit, but also a lower limit, below which the club is performing so poorly that it loses too many fans and sponsors even though costs are low.

Critical success factors that determine these boundaries are:

- the club's catchment area: a London based club can draw from better resources than a club based in Swansea.
- the club's competitors: given that there are more than five major clubs based in London, they have to share these great resources.

These are circumstances you cannot really influence. But you can influence this:

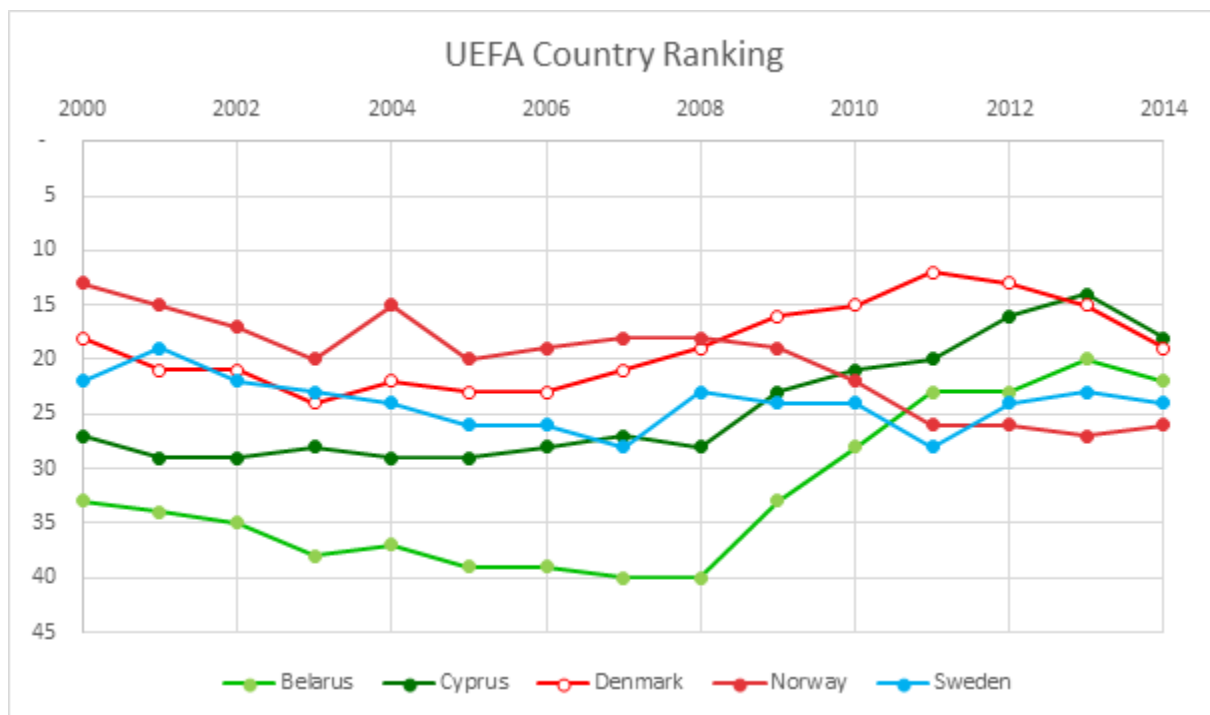
- the club's stadium: an appropriate capacity, a roaring atmosphere and excellent facilities will enhance the club's ability to draw fans and sponsors.
- marketing and sales: a good team targets its potential fans and sponsors and gets more revenues in.
- competition format: collectively, clubs can decide to change the competition format such that tension and excitement are optimal, attracting more spectators and thus generating more revenue for the participating clubs.

4.2 Sporting quality

4.2.1 UEFA Country Coefficient

Norway reached a 10th position on the UEFA Country Coefficient in 1998, was ranked 18th in 2007, and has since fallen to the 26th spot. The ranking is determined by the results over the past five years of a country's clubs participating in UEFA's club competitions, the UEFA Champions League and the UEFA Europa League.

Currently Norway is behind smaller countries like Cyprus and Belarus, as well as its neighbours Sweden and Denmark. Norway had been in front of these countries up and until 2008, see the graph below. For instance, while Norway fell back over the years, the Danes managed to ascend to rank 12 in 2011 (although they could not hold ground and are 19th now).



The UEFA Country Coefficient is important, because it determines the access list for Champions League and Europa League. Given the current position, the champion of the Tippeligaen enters the 2nd Qualifying Round for the Champions League, the runner-up and the Cup winner enter into the 2nd Qualifying Round for the Europa League, and the Norwegian number 3 enters the 1st Qualifying Round for the Europa League.

If the downward trend continues, Norwegian clubs would soon have to enter European competitions from the 1st Qualifying Round in both the Champions League and the Europa League, a next to impossible task. The last time a Norwegian club qualified for the UEFA Champions League Group Stage was Rosenborg BK in 2007/08.

The goal is to get Norway back to 12th position. Compared to Denmark, Norway also has one team consistently qualifying for European football (Rosenborg BK compared to FC København). The perfor-

mance of FC København and Rosenborg BK however has not been the key difference between Norway's and Denmark's UEFA Country ranking. It seems Denmark has a broader selection of teams collecting points than Norway. A detailed study can be given in a separate report.

The question whether the Fair Play Ticket has had a negative impact on Norway's Country Coefficient is taken up in Appendix II.

Appendix III shows the performance of Norwegian clubs in both the UEFA Champions League (qualification and main tournament) and the UEFA Europa League (qualification and main tournament).

4.2.2 Euro Club Index

A healthy sports organisation ensures that its sporting ambitions and finances are balanced out. The interaction between those dimensions can only be brought to the surface if you have a reliable proxy for sporting quality. To this end, Hypercube developed such a ranking, called the Euro Club Index (or ECI). It ranks more than 700 European professional football clubs from 52 countries.

How does it work? A club's sporting strength is determined on the basis of its results only, in the past eight years. The maths ensure that recent results carry more weight than older ones.

The cornerstone of the ECI is the difference between the actual match result and the expected match result. The latter is deduced from the ECI value of the competing teams. If the actual result is better than expected, a club earns points on the Euro Club Index; if worse, it will lose some.

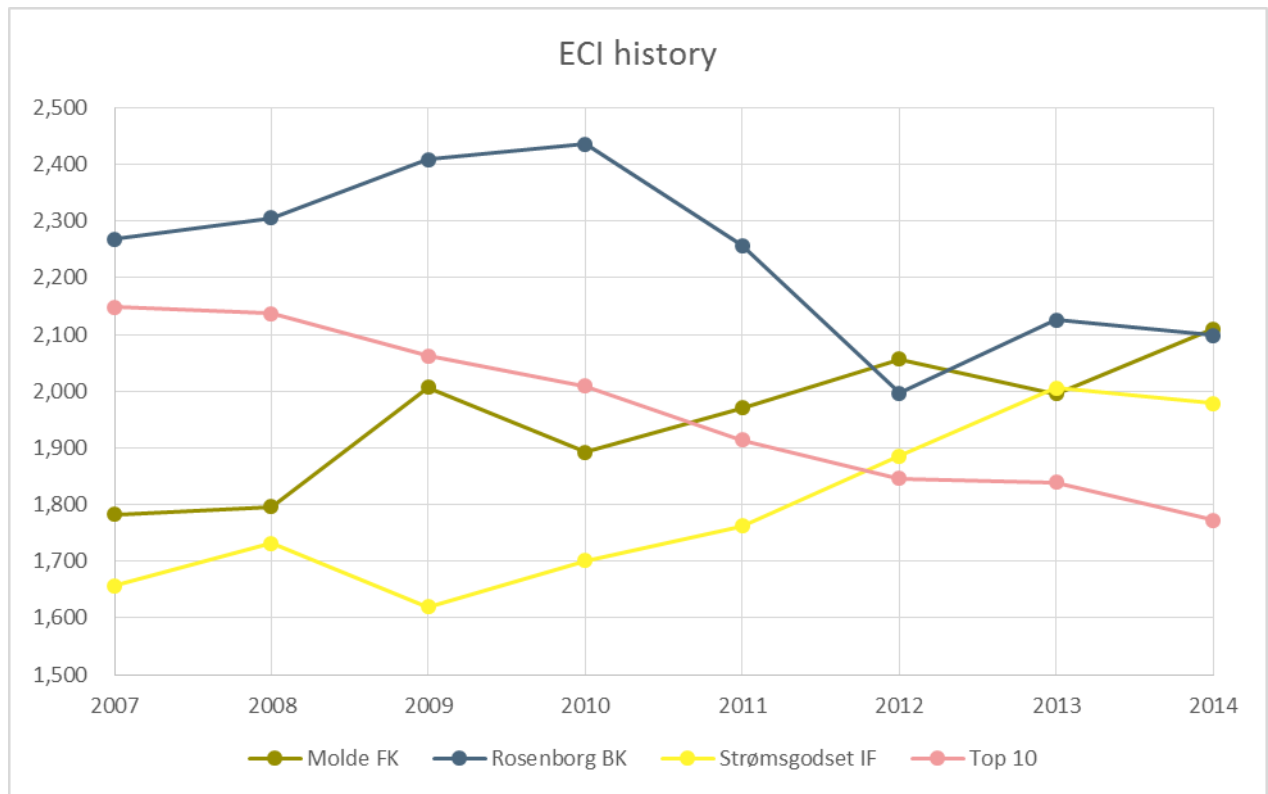
When you are a strong team and play against a weaker team, the expected result is close to a win. Then, if you actually win, you gain only few points on the Index. Yet if you are a relatively weak team and you beat the others against the odds, you win a lot of points on the index.

It is mainly for these reasons, viz. that recent results are given more weight and that it differentiates between matches against stronger and weaker opponents, that the ECI is a much more reliable proxy for sporting strength than any other ranking, e.g. the league table. That the Euro Club Index provides an objective measure of sporting strength shows in the fact that:

- it correlates very well with a club's financial figures such as turnover and team costs,
- and it is an excellent predictor of match results (beating the bookies).

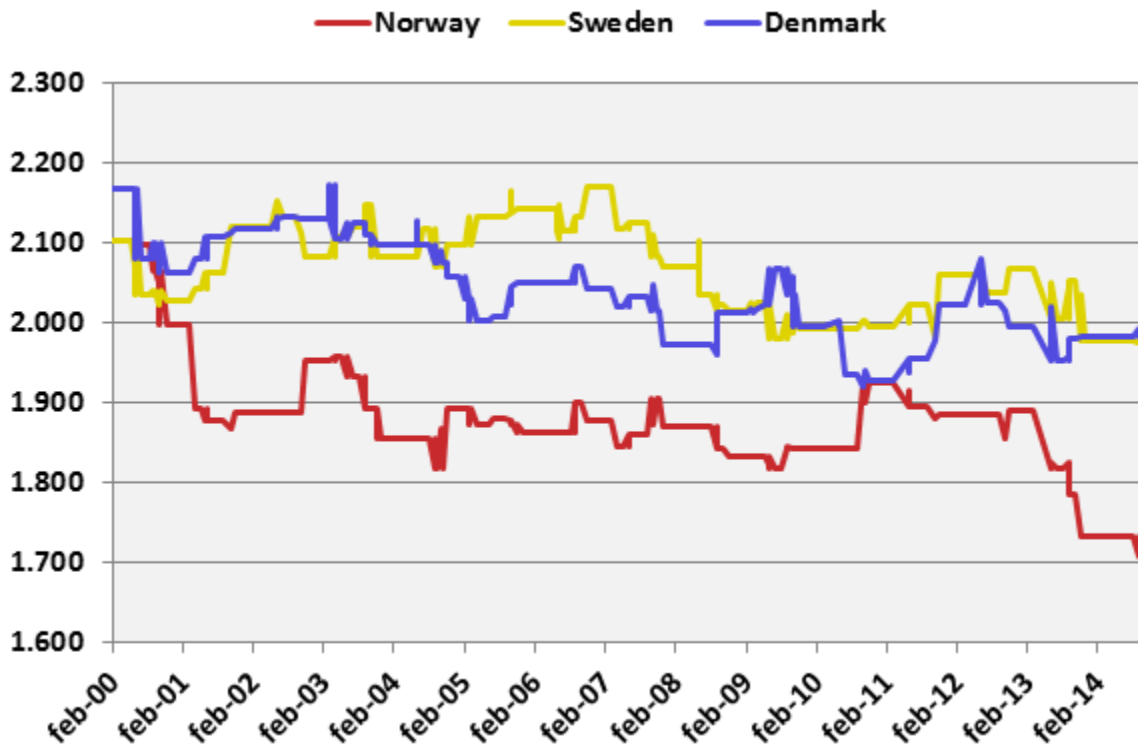
Some rules of thumb may be useful for interpretation of the ranking. A typical Champions League winner has over 4.000 points, and a typical Europa League contender 2.500. The 1st has about 4.300 points, the 25th 3.000 and the 100th 2.300.

How have Norwegian clubs performed over the past few years according to the ECI? While some clubs have made an impressive rise through the ranks, most notably Strømsgodset IF, other have lost ground. Generally the trend is clearly downwards. Picking the top 10 teams on the ECI, the average ECI value was 2.149 in July 2007, and 1.772 in July 2014. The first Norwegian club is Molde FK, placed 140th with 2.110 points (July 7, 2014), who recently took over the lead from Rosenborg BK. This ECI score unfortunately means that the chance to achieve good results in European competitions is very small. Note that in the graph below, ECI scores of the first weekend of July are taken.



4.2.3 Country ranking

Similar to the Euro Club Index Hypercube developed a Country Index. This index shows the sporting strength of national teams. The graph below shows the development of the national team of Norway compared to the national team of Sweden and the national team of Denmark.



4.3 Benchmark groups

On the basis of sporting quality as well as data about attendance, finances and size of the catchment areas, all Norwegian clubs have been divided into peer groups. This is important for two reasons. First, trends and correlations may differ between those benchmark groups. For instance, while the development of traditional top clubs may have stalled, the bunch of clubs behind may have improved and closed in on the top teams. This is highly relevant for the rest of this chapter.

Second, a new league structure is bound to have a different impact on clubs from different benchmark groups. It may be beneficial to the top teams, but much less so (or even disadvantageous) to lower ranked teams. In order to make a decision that everyone can agree with, and that will be lasting, it is of course crucial that everyone has the right expectations.

The allocation of the clubs to the benchmark groups is based on four factors, taking a weighted average over three seasons (factors 2012 (1x), 2013 (2x), 2014 (4x)):

- 50% Sporting strength (ECI)
- 20% Revenues
- 20% Catchment area
- 10% Expenditures

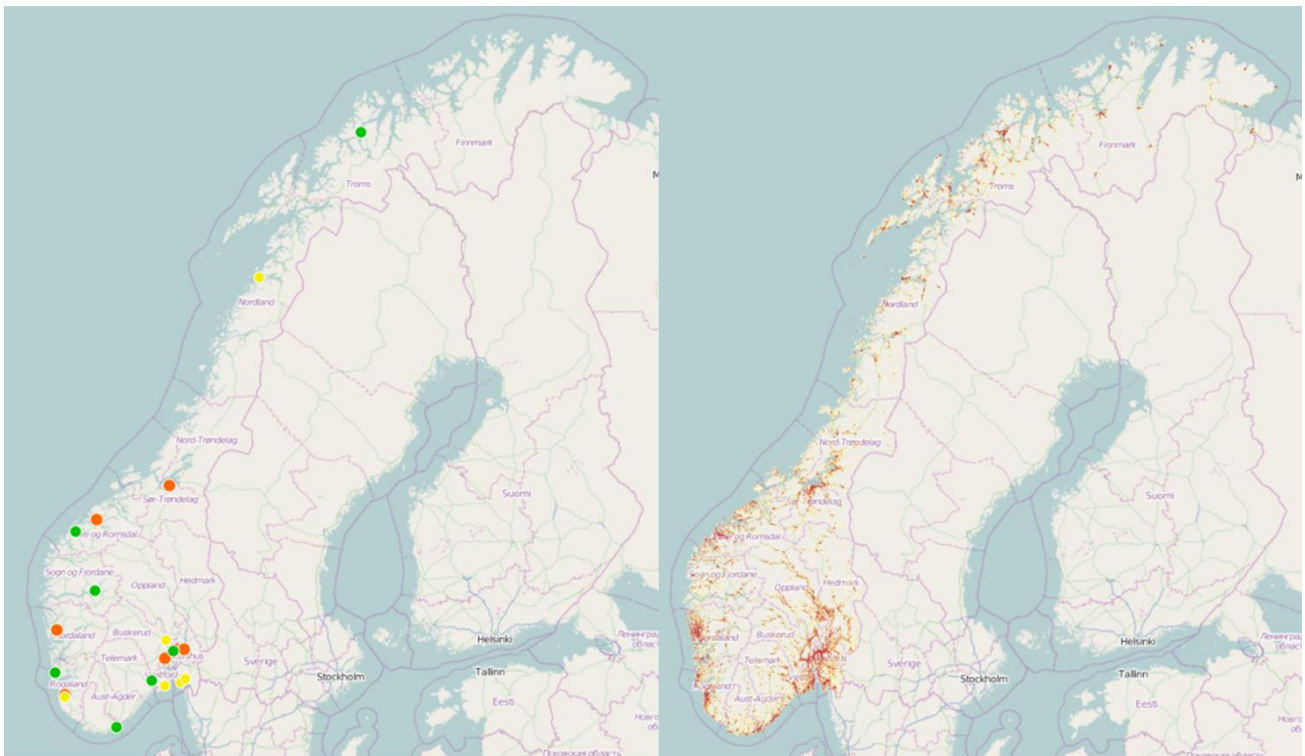
Benchmark groups for 2014 season

BM	Club
A	Rosenborg BK
A	Vålerenga Fotball
A	SK Brann
A	Strømsgodset IF
A	Molde FK
A	Lillestrøm SK
A	Viking FK
B	Aalesunds FK
B	FK Haugesund
B	Odds BK
B	Tromsø IL
B	Stabæk Fotball
B	IK Start
B	Sogndal Fotball
C	Fredrikstad FK
C	Sandnes Ulf
C	FK Bodø/Glimt
C	Hønefoss BK
C	Sandefjord Fotball
C	Sarpsborg 08
D	Bryne FK
D	Mjøndalen IF
D	Kristiansund BK
D	IL Hødd
D	Ranheim IL
E	HamKam Fotball
E	Kongsvinger IL
E	SK Vard Haugesund
E	Tromsdalen UIL
E	Alta IF
E	Bærum SK

BM	Club
F	Asker Fotball Herrer
F	Notodden FK
F	Strømmen IF
F	Follo
F	KFUM Oslo
F	Raufoss Fotball
F	FC Lyn Oslo
F	Byåsen Toppfotball
F	Kjelsås IL
F	Ullensaker/Kisa IL
F	Nybergsund IL-Trysil
F	Vindbjart FK
F	Lørenskog IF
F	Fram Larvik
G	IL Nest-Sotra
G	Kvik Halden FK
G	Nardo FK
G	Flekkerøy IL
G	Førde IL
G	Moss FK
G	Levanger FK
G	Strømsgodset IF II
G	Pors Grenland
G	Ålgård FK
G	Rosenborg BK II
G	Fyllingsdalen
G	FK Jerv
G	IF Birkebeineren

BM	Club
H	Grorud IL
H	Elverum Fotball
H	Eidsvold TF
H	SK Træff
H	Skeid
H	Åsane Fotball
H	Valdres FK
H	FK Vidar
H	Mo IL
H	FK Ørn-Horten
H	Egersunds IK
H	Molde FK II
H	Odds BK II
H	Vålerenga Fotball II
I	SK Gjøvik/Lyn
I	Fana Fotball
I	Harstad IL
I	SK Brann II
I	Stabæk Fotball II
I	Drøbak/Frogn FK
I	FK Arendal
I	Finnsnes IL
I	Stord Sunnhordland
I	Brumunddal Fotball
I	Florø SK
I	Holmen IF
I	SK Herd
I	Rødde FK
I	Medkila IL

Benchmark clubs A, B, and C, and the population density

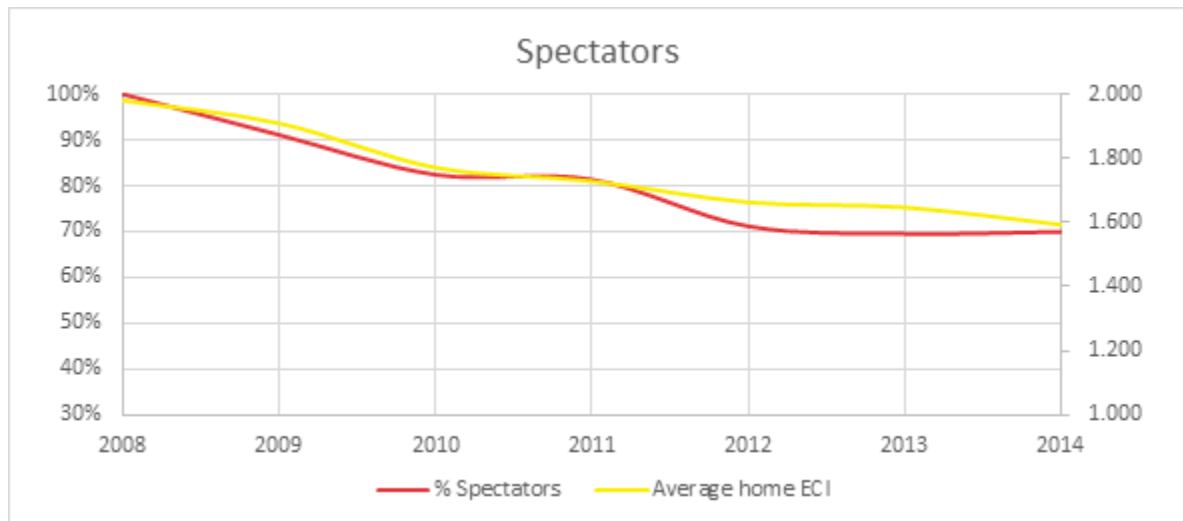


Note that the top clubs are all located in areas which are (relatively) densely populated. However, the difference with other clubs is not as big as you would expect simply from their catchment areas. The top clubs don't deliver – or, to put it in a different way, the exploitation of the catchment areas isn't what it should be. This is a topic that is worth further exploration, but it is not relevant for the present subject of league structure optimization.

4.4 Attendance

4.4.1 Trends

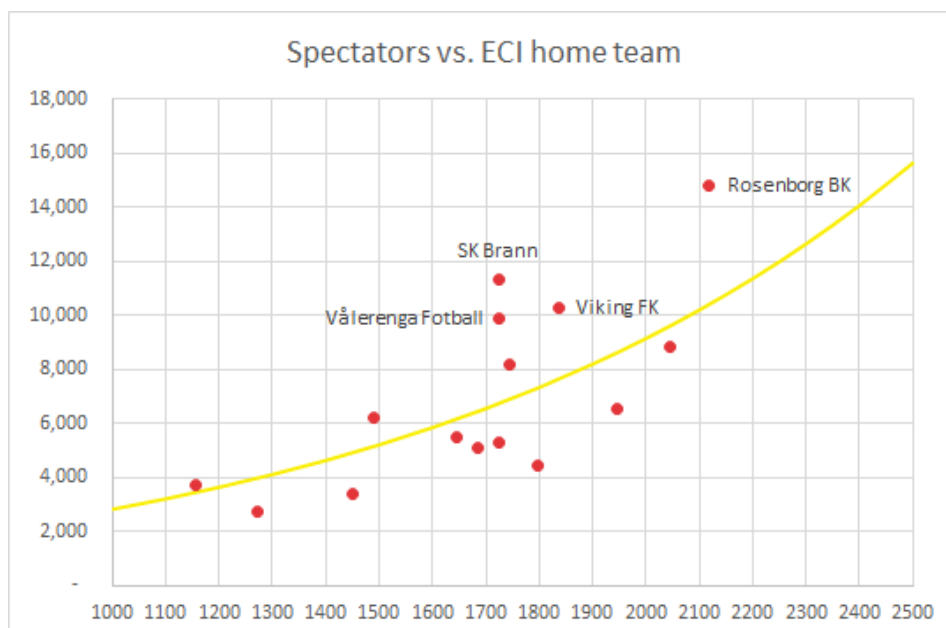
The Norwegian teams have lost ground on the Euro Club Index, and the number of spectators follows this pattern.



This graph shows the percent change of the mean number of spectators compared to 2008 and the average ECI of the home team. As we can see, the decrease in ECI seems to cause a decrease in attendance. It seems like the number of spectators is highly dependent on the ECI of the home team, which is also shown by a correlation coefficient of 0.98 between the mean number of spectators and mean ECI of the home team. Other critical success factors that explain the number of spectators are explored in the next subsection.

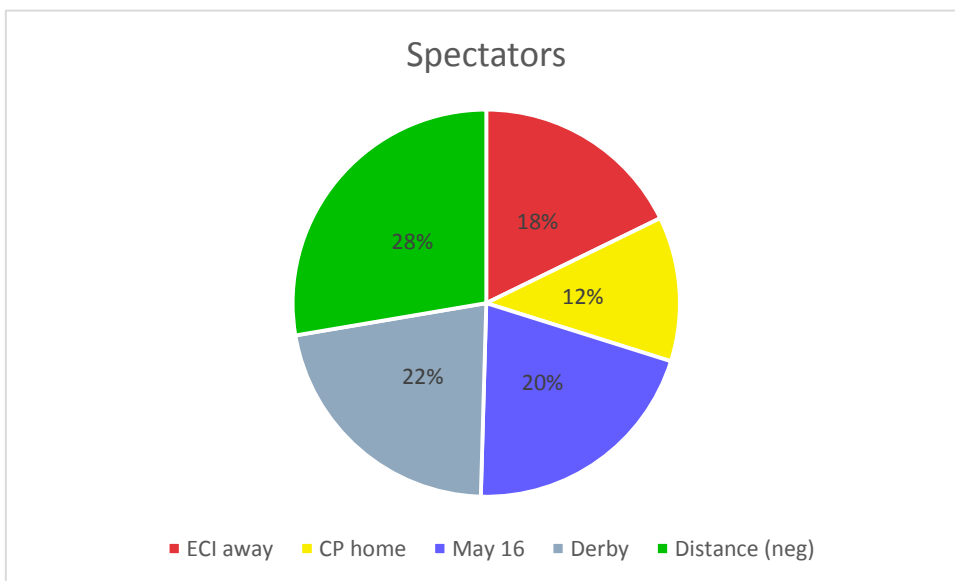
4.4.2 Critical success factors

Analysis show that the attendance is foremost dependent on the sporting quality of the home team and its catchment area.



This graph shows the model prediction of the number of spectators for a given ECI and the average number of spectators vs. their average ECI of the season 2013. As we can see, some clubs tend to attract more spectators than their ECI would predict. This is known for SK Brann and Vålerenga Fotball, but also still seems true for Rosenborg BK (which did see a decline in both ECI and number of spectators over the years) and Viking FK (a former major club). Not coincidentally, these four clubs are located in the four biggest cities of Norway: Oslo (Vålerenga Fotball), Bergen (SK Brann), Stavanger (Viking FK) and Trondheim (Rosenborg BK).

Sporting strength and catchment area of the home team explain 70% of the differences in match attendance. But given the strength of a team, how does it attract more spectators? The critical success factors are shown in the pie chart below, together with their relative importance in the model of the attendance data. The model correlates well with the actual data ($R^2=0.66$).



Of course the strength (ECI) of the opponent is relevant, but the distance between the clubs is actually the most important factor. The further away the opponent is based, the fewer people come to watch the game.

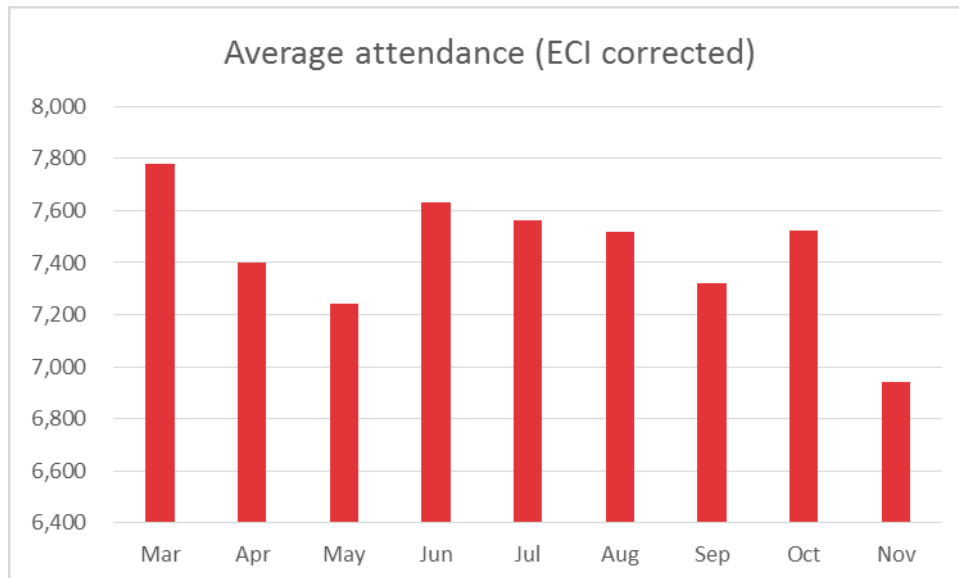
Derbies are also of major importance: these matches attract extra spectators. Known derbies are Start – Viking, Viking – Brann, Rosenborg – Molde, Vålerenga – Lillestrom, Vålerenga – Brann, Viking – Sandnes Ulf, Molde – Aalesund, Sarpsborg 08 – Fredrikstad, Bodø Glimt – Tromsø.

The May 16th round, which is played the day before Norway's Constitution Day (May 17th) is one of the most anticipated rounds of the season. It is often referred to as the "national day of football" and we find a significant higher attendance than other rounds.

Lastly, the public does seem to react on competition progress (CP): if the outcome of a match is more important to the end result in the league of the home team, there are bound to be more spectators.

There appears to be no significant negative impact from the winter at the start and end of the season. It seems the moments to start and end the competition are chosen very well, since the graph below does show a signs of a lower average number of spectators in November, it is likely that playing in December would have a significant effect on the number of spectators.

The graph below shows the difference in average attendance during the season (seasons 2008 till 2014, corrected for the change in ECI). Surprising is the low average attendance in May, while we did find a positive effect on the number of spectators of May 16th. Looking more closely at May, we find that there is no football the days around May 16th, but more importantly that the average number of spectators drops in the week prior to the national holiday of May 17th.



4.5 TV audience

4.5.1 The media landscape for live football

The broadcasting rights for live Tippeligaen matches are divided between a free-to-air channel (TV2) and a Premium channel (CMore). Currently the Premium channel has first choice for the Tippeligaen weekend matches. TV2 has second and third choice. The other Tippeligaen matches can only be viewed on Premium. TV2 also broadcasts a 1. Divisjon match. Live streaming on internet is a growing market.

4.5.2 Trends

To be able to assess the trends in TV viewing for Norwegian football, a status report was produced by GimCom. The GimCom report addresses the following issues:

- Developments in audience rating figures for Premium matches
- Developments in the open source TV market in Norway
- Development in viewer figures, free TV Tippeligaen matches
- Media worth of Tippeligaen viewer

Free-to-air TV

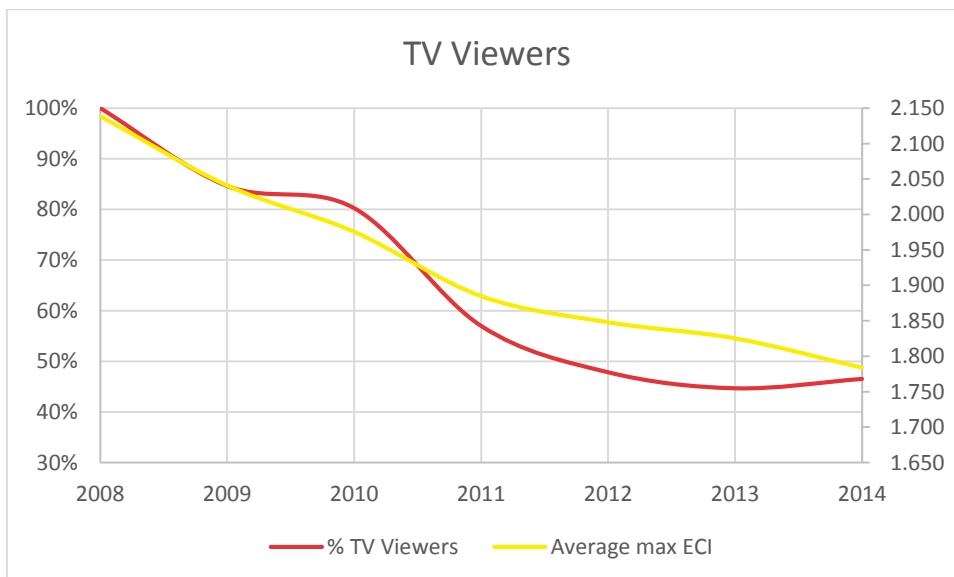
While TV viewing in Norway appears to be increasing, the number of viewers of free TV Tippeligaen broadcasts has shown a drastic fall in recent years. See the tables below.

Year	Average No. of Tippeligaen viewers - TV 2 HD
2008	525 000
2009	477 000
2010	431 000
2011	410 000
2012	339 000
2013	277 000
2014	225 000 (as of 01.09.14)

Year	Average No. of Tippeligaen viewers - TV 2 Zebra
2008	206 000
2009	207 000
2010	159 000
2011	144 000
2012	102 000
2013	92 000
2014	96 000 (as of 01.09.14)

The GimCom report offers a wide range of explanations, some football related, some TV related.

Independent analysis shows a very high correlation between the number of viewers and the quality of the football that is presented. Not only has the sporting quality of Norwegian football gone down considerably in recent years (see 4.2), also there has been a transition from first choice to second choice weekend matches for the free-to-air channel.



This graph shows the percent change of the mean number of TV viewers and the decrease in mean maximum ECI participating in matches. It seems likely that the number of TV viewers is highly dependent on the ECI of the best team in the match broadcasted, which is also shown by a correlation coefficient of 0.98. Other critical success factors that explain the number of TV viewers are explored in the next subsection.

Premium TV and streaming

According to the GimCom report it is very difficult to obtain trustworthy viewer ratings for Premium TV and live streaming of Tippeligaen matches. The number of subscribers (CMore Sports, CMore Total, CMore Play) is still at a level that appears to be insufficient to cover the cost of live football broadcasts.

4.5.3 Critical success factors

The critical success factors for TV audience have been analysed from the free-to-air TV ratings in the seasons 2008-2014. Premium ratings are not available.

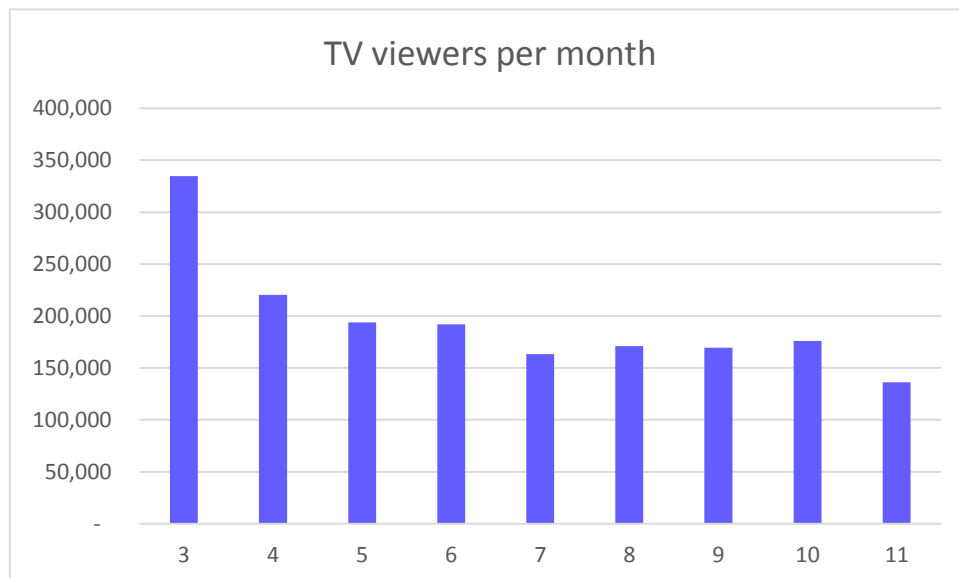
Sporting factors

Besides the sporting quality of the participating teams (the main success factor), there are a few very popular clubs that attract considerably more TV viewers than others, i.e. Brann, Rosenborg BK and Vålerenga. The fact that these clubs have not been performing well is also detrimental to TV ratings.

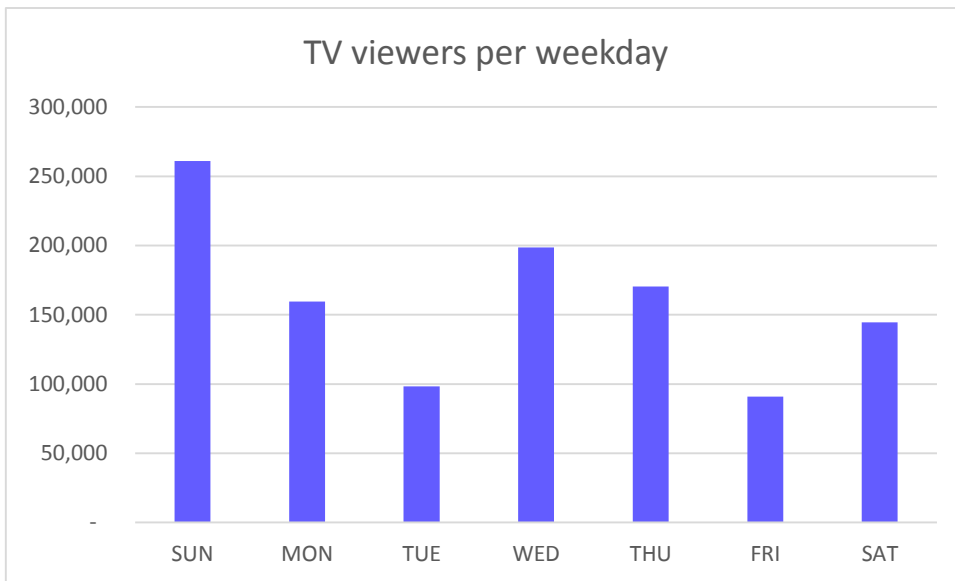
Level 2 matches draw less viewers than level 1 matches with the same sporting quality. The derby factor and the distance factor seem to be insignificant.

A significant influence of competitive balance and/or competition progress on the TV ratings has not been found.

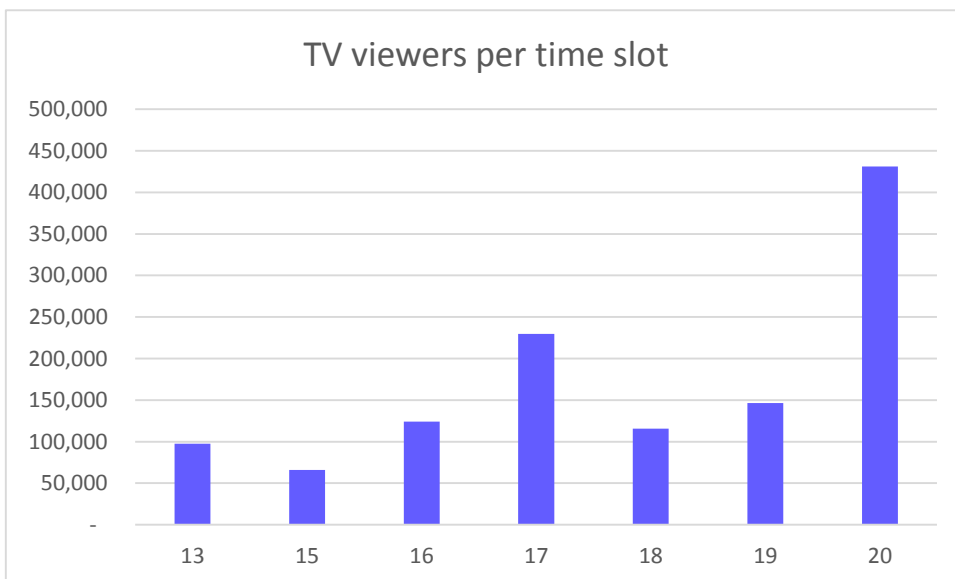
Time of broadcast



A striking feature is that the start of the season draws considerably more TV viewers than the end of the season (graph shows average match audience 2008-2014).



Sunday is the best day, followed by Wednesday (graph shows average match audience 2008-2014).



The best start time is 8:00 p.m. (graph shows average match audience 2008-2014).

4.5.4 Media value of football

The GimCom report contains a useful analysis of the value of the football viewer for the media companies. The main revenue flows are:

- Advertising revenues
- Premium revenues
- Distribution revenues

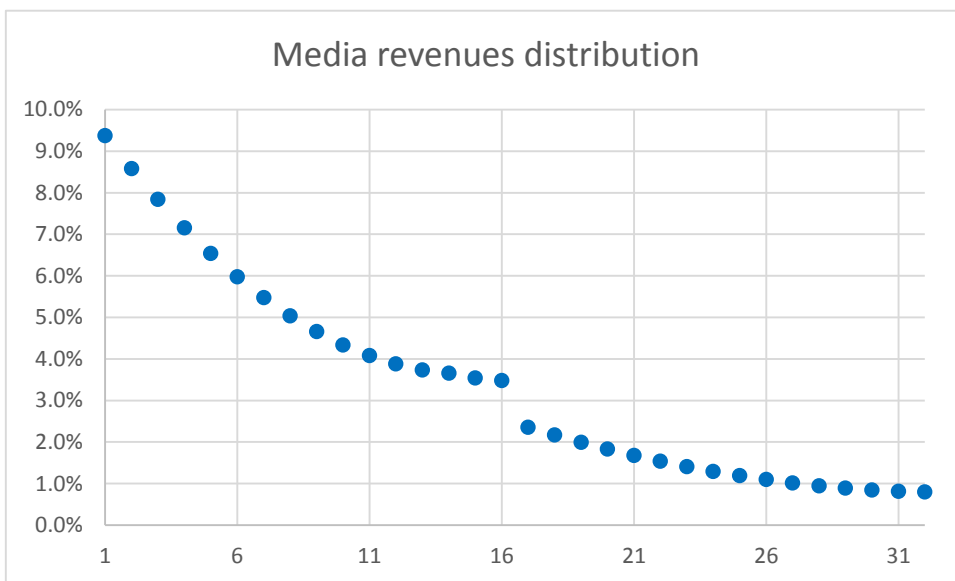
“The advertising value per football viewer is in the region of 15 øre per TV advert exposure (CPT of 150 after discounts).

The Premium value per person lies in the amount in kroner the football viewer is willing to pay for Premium football products for streaming or broadcast.

The distribution value per person is dependent on the total number of viewers that football attracts to the rights purchaser – and how the value of Tippeligaen is calculated by the distributor in comparison with other programmes/rights the various channels have”.

4.5.5 Media revenues clubs

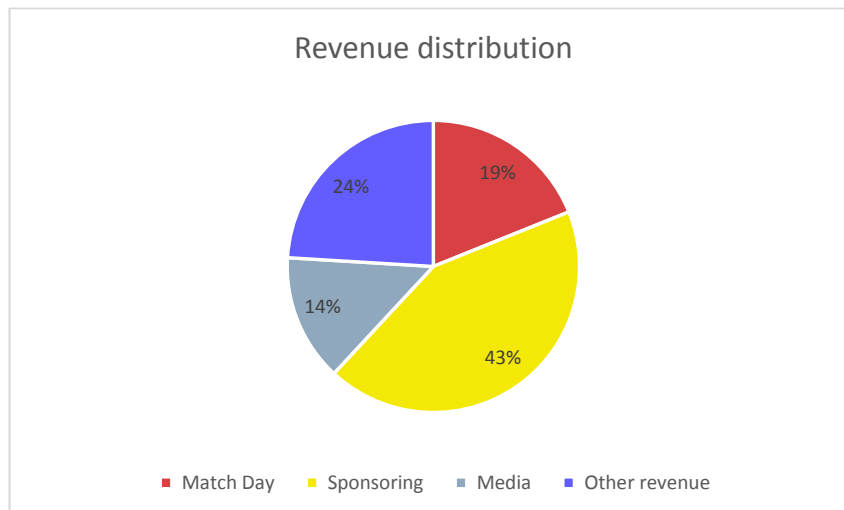
The distribution of media revenues over the clubs in Tippeligaen and 1. Divisjon is not just based on which clubs were broadcast, but contains a large solidarity component. The graph below shows a model of this distribution, based on data from 2011 and 2012. Growth of TV audience and subsequently of media revenues will benefit all these clubs.



4.6 Revenues

4.6.1 Trends

The revenues are from sponsoring, match days, media income and other sources. The average distribution is depicted in the pie chart below.



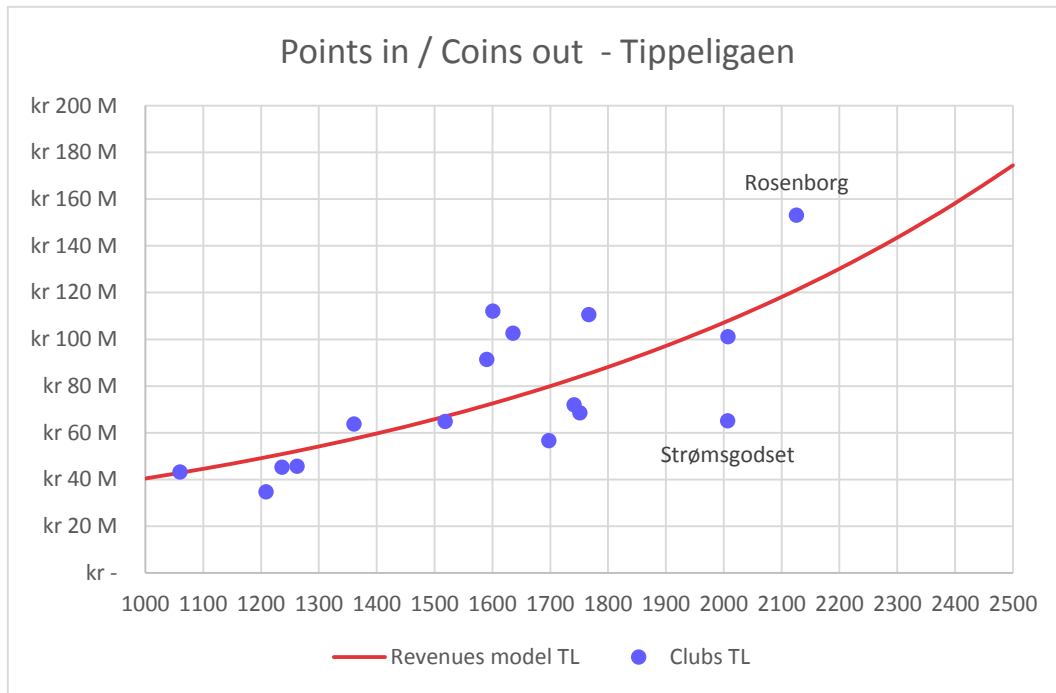
The data show the same distribution consistently over 2011 thru 2014, and there are no great differences between the benchmark groups. The latter is quite different from the Netherlands: moving from the higher to the lower benchmark groups, in the Netherlands the share of sponsoring increases and the share of match day revenues decreases, whereas in Norway there is a flat line showing no major differences between the benchmark groups.

The share of match day revenues is in general lower in Norway than in the Netherlands (19% vs. 30%), sponsoring is more or less equal, and media income is a little higher (14% vs. 10%).

4.6.2 Critical success factors

The income is largely dependent on two factors: the sporting quality and the catchment area. Since income determines expenditures, which in turn drive the sporting quality (see below), the catchment area alone often is a good indicator of the size of a club (on any dimension). However, sometimes the catchment areas of two clubs overlap, e.g. when two clubs are based in the same city. Sporting quality, now or in history, will then decide which club gets the people on their side. Also, some places are simply more football minded than others.

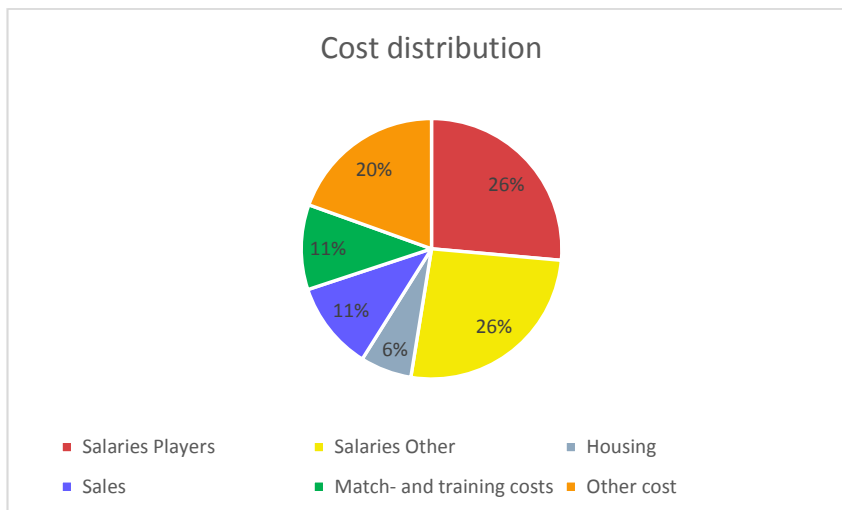
The relationship between 'the points in' and 'the coins out' is shown in the graph below. The correlation is high ($R^2 = 0.88$). The graph shows the revenue a club generates from its ECI. In Section 4.9, this is compared to the Dutch Eredivisie. As we can see from this graph, there are several clubs generating more revenue than the model predicts on the basis of their ECI. An example is Rosenborg BK, which recently experienced a drop in ECI. If Rosenborg BK does not improve its sporting strength, its revenues will most likely decrease. On the other hand, the surprisingly well performing Strømsgodset IF recently experienced a rapid increase in ECI. The revenues are not yet according to their new status, but if they keep up this sporting strength, their revenues will most likely increase.



4.7 Costs

4.7.1 Trends

The costs of a club are distributed over salaries of the players and the rest of the organization, housing, sales, match and training costs, and various other items.



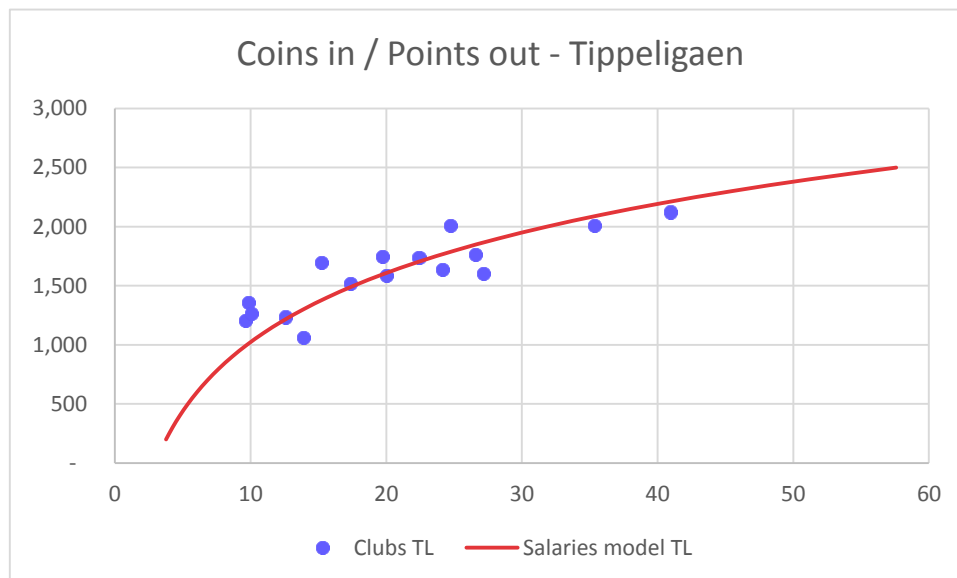
Just like the revenues distribution, the cost distribution is quite consistent over time as well as between the benchmark groups. Comparing the data to the Netherlands, it is remarkable that the total share of salaries is only just over 50%, whereas in the Netherlands it is about 60%. The difference is largely found in the player salaries. In the Netherlands, the licensing system awards clubs when total salaries are below 60%. This gives clubs an incentive to keep a well-balanced budget and not focussing too much on players at the cost of the rest of the organisation. Dutch clubs are generally all close to the mark of 60%.

4.7.2 Critical success factors

Expenditures are of course largely dependent on income. Football clubs do not have the goal to make a profit – except for some clubs that have investors as shareholders – but cannot afford structural losses either.

But expenditures are in turn a critical success factor for sporting quality (see the sports economics cycle in 5.1). Especially player wages are highly correlated with the ECI. Indeed, this means that football is highly capitalist business, just like any other industry. If a club performs better than expected given its expenditures on player wages, then other clubs will try to lure its players into a transfer with higher salaries. A good trainer, or good atmosphere, or a relatively young squad might cause a club to out-perform. But on the long run, a club will move to normal.

The relationship between ‘the coins in’ and ‘the points out’ is shown in the graph below. The correlation is high ($R^2 = 0.88$). The graph shows the ECI a club generates from its total players salary. Again, a comparison to the Dutch Eredivisie can be found in section 4.9. In the graph below, we see less outliers than in the Points in / Coins out graph of section 4.6. It seems that the Tippeligaen clubs are all getting their points from player salaries in a similar fashion.



4.8 Impact of improving sporting performance

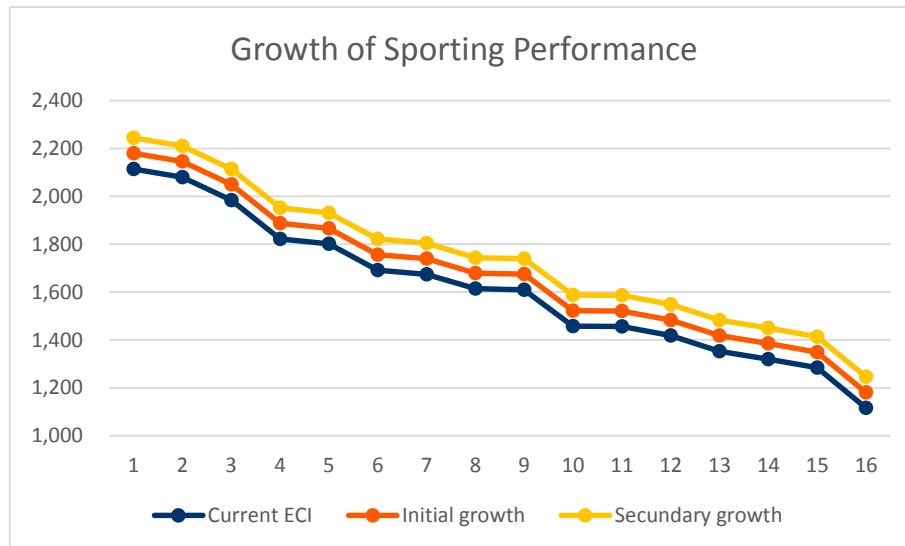
As the cycle of sports economy predicts, an improvement on one aspect will lead to improvements on other dimensions, which will give yet an extra boost to the first aspect. The two graphs above ‘points in/ coins out’ and ‘coins in/ points out’ will tell you when this self-reinforcement will tamper out and a new balance is found.

In order to gain approximately 100 points on the Euro Club Index, the players’ budget needs to increase by 12,5%. Adding 100 ECI points can give up to 10% revenue growth, depending on the size of the catchment area.

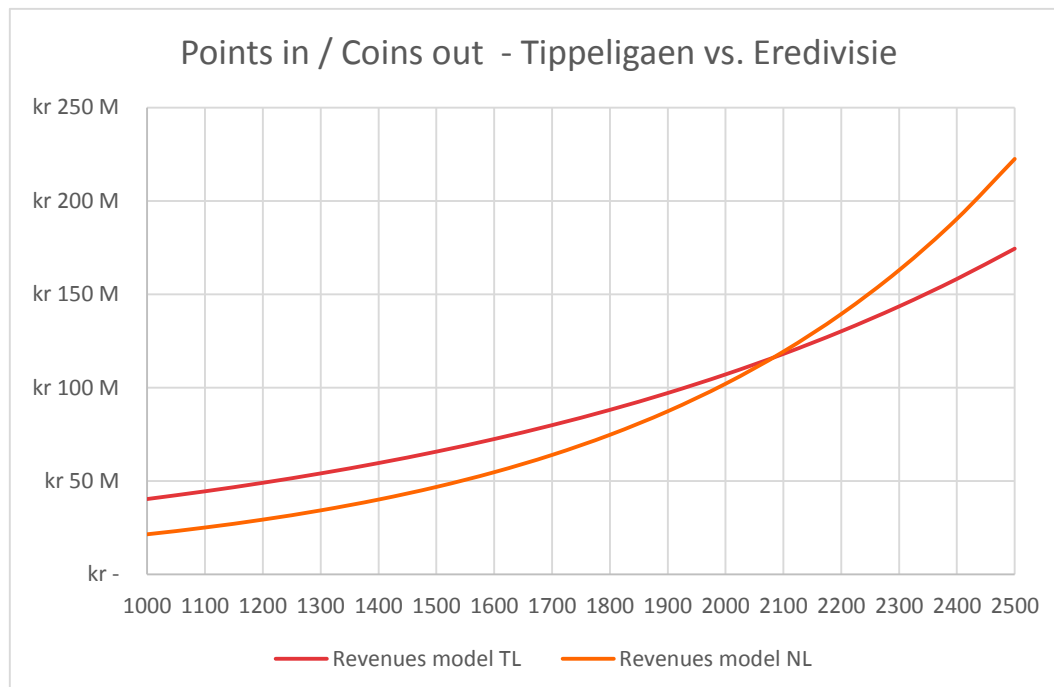
But a better competition format can increase club revenues too, up to approximately 8% initially. But then, this provides new impetus to the cycle of the clubs’ sports economy. These extra revenues will

lead to an increase in sporting performance, estimated at 65 ECI points on average. Given the increased sporting performance, more revenues can be created. So this secondary effect will result in further growth in sporting quality, which will be realized more gradually, over the span of a couple of years.

The total increase in sporting strength might be in the range from 100 up to 125 ECI points on average. This can lead to a rise of 5 to 10 spots on the UEFA Country Ranking.

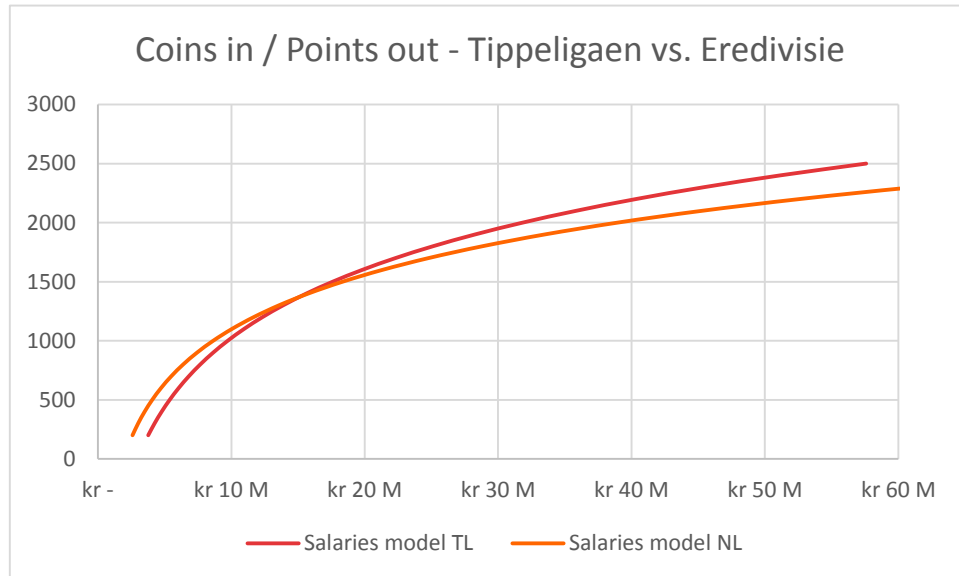


4.9 Comparison with other countries



This graph shows the model for revenues from ECI for both the Norwegian Tippeligaen and the Dutch Eredivisie. As we can see from this graph, smaller Norwegian clubs (low ECI) are generating more money than equally performing Dutch clubs. This may be due to the fact that the Norwegian economy

as a whole is stronger than the Dutch. However, bigger clubs (ECI > 2.100) in the Netherlands are generating a lot more money than their Norwegian counterparts. This is most likely caused by the difference in catchment areas. Since there are more people in the Netherlands (16,8 million) than in Norway (5,1 million), clubs automatically have a bigger catchment area and hence more opportunities to generate income.



Norwegian clubs generally perform better than Dutch clubs given a certain salaries budget. The Tippeligaen is less expensive and more egalitarian than the Eredivisie. In the Netherlands, salaries are higher in general, and it is more costly to step up a level in sporting quality. The graph above shows that the lines cross on the left side, at a level that also marks the natural boundary between Dutch Eredivisie and First Division. Smaller clubs in the Netherlands have a small budget, but still a fairly a good sporting quality.

An explanation of the difference on the top end (the right side of the graph) might be that more European revenues enter into the Dutch football market, and those are eventually spent. An explanation of the differences on the lower end (the left side of the graph) might be that there is generally good youth development in the Netherlands, also at the smaller clubs, which helps sustain a situation where talented players enhance the sporting quality while the salaries can be kept relatively low.

If we take a macro-economic stance to professional football and compare all European countries, we see that football draws its resources (players) from all the inhabitants and that those resources are traded. Evidently, a country that has more inhabitants, has a greater chance that there are talents among them. But also a country's youth development might have a positive effect. Then, since there is economic traffic, clubs from a richer country are better positioned to buy the good players. So there tends to be a connection between sporting quality, the number of inhabitants, and GDP.

Norway has a relatively small number of inhabitants, but GDP per capita is really high. Sweden has more inhabitants, which adds to the quality of their national team, but the sporting quality of its club football is more or less equal to that in Norway.

NORSK TOPPFOTBALL – LEAGUE STRUCTURE OPTIMIZATION

Rank	UEFA National Team Ranking		UEFA Country Ranking		Euro Club Index	
1	Spain	41.872	Spain	97,715	Spain	3.425
2	Germany	41.365	England	84,750	England	3.281
3	Netherlands	38.541	Germany	81,645	Germany	3.081
4	Italy	35.093	Italy	66,940	Italy	2.932
5	England	34.885	Portugal	62,300	France	2.698
6	Portugal	34.448	France	56,505	Russia	2.667
7	Greece	33.674	Russia	47,000	Portugal	2.532
8	Russia	32.946	Netherlands	44,315	Ukraine	2.380
9	Bosnia & Herzegovina	31.416	Ukraine	40,970	Netherlands	2.377
10	France	31.152	Belgium	36,305	Turkey	2.376
11	Croatia	30.785	Turkey	34,205	Czech Republic	2.238
12	Ukraine	30.635	Greece	33,605	Switzerland	2.207
13	Sweden	30.245	Switzerland	33,230	Belgium	2.189
14	Denmark	29.660	Austria	30,930	Romania	2.113
15	Switzerland	29.572	Czech Republic	29,355	Greece	2.023
16	Belgium	28.732	Romania	27,260	Israel	1.990
17	Czech Republic	28.234	Israel	26,880	Denmark	1.985
18	Hungary	27.802	Cyprus	23,255	Sweden	1.878
19	Ireland	26.733	Denmark	21,305	Cyprus	1.874
20	Serbia	25.985	Croatia	19,630	Bulgaria	1.868
21	Turkey	25.955	Poland	18,880	Austria	1.835
22	Slovenia	25.835	Belarus	18,630	Norway	1.831
23	Israel	25.442	Scotland	16,570	Scotland	1.683
24	Norway	25.341	Sweden	16,330	Poland	1.658
25	Slovakia	25.333	Bulgaria	15,630	Hungary	1.610
26	Romania	25.171	Norway	14,280	Bosnia & Herzegovina	1.575
27	Austria	24.572	Serbia	14,130	Slovakia	1.558
28	Montenegro	22.991	Hungary	11,630	Azerbaijan	1.467
29	Armenia	22.861	Slovakia	11,005	Serbia	1.416
30	Poland	22.464	Slovenia	11,005	Belarus	1.403

This table shows the top-30 of the different sporting rankings in June 2014. The Euro Club Index shows the average ECI of the 8 strongest teams in the country.

Rank	Population x 1,000		GDP x 1mln		GDP per capita		Football economy x 1 mln	
1	Russia	143,170	Germany	€ 2,666,400	Liechtenstein	€ 123,731	England	€ 2,780
2	Germany	82,800	France	€ 2,032,297	Luxembourg	€ 81,944	Germany	€ 1,944
3	Turkey	73,997	England	€ 1,667,164	Norway	€ 77,873	Spain	€ 1,860
4	France	65,911	Russia	€ 1,579,790	Switzerland	€ 61,426	Italy	€ 1,720
5	Italy	60,885	Italy	€ 1,567,010	San Marino	€ 46,155	France	€ 1,160
6	England	52,741	Spain	€ 1,029,002	Denmark	€ 43,781	Russia	€ 896
7	Spain	46,755	Turkey	€ 613,528	Sweden	€ 42,862	Turkey	€ 558
8	Ukraine	45,530	Netherlands	€ 599,338	Faroe Islands	€ 38,042	Netherlands	€ 432
9	Poland	38,211	Switzerland	€ 491,246	Austria	€ 36,272	Portugal	€ 288
10	Romania	21,755	Sweden	€ 407,674	Netherlands	€ 35,858	Belgium	€ 256
11	Netherlands	16,714	Norway	€ 388,888	Ireland	€ 35,826	Ukraine	€ 208
12	Kazakhstan	16,271	Poland	€ 381,249	Finland	€ 35,600	Switzerland	€ 190
13	Greece	11,125	Belgium	€ 376,229	Belgium	€ 34,017	Norway	€ 176
14	Belgium	11,060	Austria	€ 307,004	Iceland	€ 32,432	Greece	€ 160
15	Czech Republic	10,660	Denmark	€ 245,076	Germany	€ 32,203	Denmark	€ 156
16	Portugal	10,604	Greece	€ 193,749	Andorra	€ 32,005	Austria	€ 150
17	Hungary	9,976	Finland	€ 192,541	England	€ 31,611	Sweden	€ 128
18	Sweden	9,511	Israel	€ 187,622	France	€ 30,834	Scotland	€ 120
19	Belarus	9,405	Portugal	€ 165,107	Scotland	€ 28,640	Kazakhstan	€ 112
20	Azerbaijan	9,309	Ireland	€ 163,938	Italy	€ 25,737	Romania	€ 108
21	Austria	8,464	Kazakhstan	€ 157,726	Israel	€ 24,545	Poland	€ 96
22	Switzerland	7,997	Czech Republic	€ 152,893	Northern Ireland	€ 22,803	Czech Republic	€ 80
23	Israel	7,644	Scotland	€ 149,753	Spain	€ 22,009	Israel	€ 56
24	Bulgaria	7,278	Ukraine	€ 137,220	Wales	€ 21,791	Cyprus	€ 56
25	Serbia	7,242	Romania	€ 131,840	Cyprus	€ 20,596	Belarus	€ 44
26	Denmark	5,598	Hungary	€ 96,976	Greece	€ 17,416	Hungary	€ 37
27	Slovakia	5,446	Slovakia	€ 71,096	Slovenia	€ 17,081	Croatia	€ 36
28	Finland	5,408	Wales	€ 65,639	Malta	€ 15,966	Azerbaijan	€ 36
29	Scotland	5,229	Azerbaijan	€ 53,490	Portugal	€ 15,571	Bulgaria	€ 27
30	Norway	4,994	Belarus	€ 49,234	Czech Republic	€ 14,343	Serbia	€ 21

This table shows the top-30 of the different socio-economic rankings in 2012. The football economy shows the total revenues of the top flight clubs.

5

5 Result dimensions

The data analysis presented in the previous chapter provided the guidelines for the critical success factors of the different aspect of Norwegian football. The different alternatives for a new competition format have to be measured using these success factors. This is done by simulating these competition formats along all relevant result dimensions.

Result dimensions are those aspects of a competition format that determine if it is to be valued as a good format or not. The alternative competition formats will be evaluated against the result dimensions. They are (y)our guiding principles. What the result dimensions are in this Norwegian case, and how much weight they will carry, is decided by the Norwegian clubs.

An explanation of all the result dimension can be found in the glossary in appendix I.

The table below shows the average value from the response of the clubs.

Result dimensions	Categories						Total
	Sporting	Calendar	Attendance	TV	Finance	Fairness	
	30,6%	12,1%	11,4%	9,5%	26,4%	10,0%	100,0%
Sporting Quality	50%						15,3%
Competitive Balance	25%						7,7%
Competition Progress	25%						7,7%
Players Congestion		50%					6,1%
Calendar Utilization		50%					6,1%
Match Attendance			33%				3,8%
Club Attendance			33%				3,8%
League Attendance			33%				3,8%
Match TV audience				40%			3,8%
Club TV audience				30%			2,9%
League TV audience				30%			2,9%
Match Day Revenues					30%		7,9%
TV Revenues					20%		5,3%
Commercial Revenues					30%		7,9%
European Revenues					20%		5,3%
Fairness principle						100%	10,0%
Total							100,0%

The Norwegian clubs have given the most importance to the sporting and financial result dimensions. The TV result dimensions are of less importance.

6

6 The pyramid structure

A well structured pyramid is important for the quality and the flow through of Norwegian football as a whole. Nowadays the pyramid is not optimal since there are several issues on second and third level.

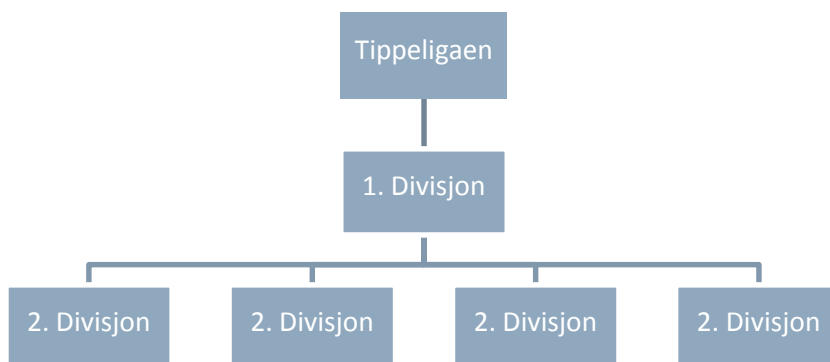
There are four direct relegations from 1. Divisjon (since the champions of 2. Divisjon are allowed to be promoted). This results in relegation stress for a lot of teams during the season. These teams tend to field their more experienced players. Youth players therefore don't get enough playing minutes.

The third level currently has 56 clubs, divided in four parallel groups. This results in an unbalance within and between the competitions. The quality difference between the top and the bottom clubs is high. The champion of one group is not necessarily stronger than the runner-up of another group.

In order to streamline the pyramid in a way that improves these issues, several alternative setups have been analysed.

6.1 Alternatives

The pyramid structure signifies how many leagues there are on each level. Nowadays the situation is 1+1+4, as depicted below.



The biggest problem with this structure is that you need four direct relegations from 1. Divisjon, since all champions of 2. Divisjon need to have the right to be promoted. In order to find out what the best structure is, we analysed 6 alternative structures:

- 1+1+1+2
Introduce a new league between 1. Divisjon and 2. Divisjon, and reduce the 2. Divisjon to two leagues
- 1+1+1+3
Introduce a new league between 1. Divisjon and 2. Divisjon, and reduce the 2. Divisjon to three leagues
- 1+1+1+4
Introduce a new league between 1. Divisjon and 2. Divisjon

- 1+1+2+4
Introduce two new leagues between 1. Divisjon and 2. Divisjon
- 1+1+3
Reduce the 2. Divisjon to three leagues
- 1+2+4
Split the 1. Divisjon into two leagues

To compare the different structures we assumed that every league has 16 competitors. The different options are analysed on their impact on:

- Sporting quality
- Competitive balance
- Distance (Cost)
- Promotion / Relegation

6.2 Results

The analysis yielded the following results. The alternative structures are compared to the current pyramid:

	Sporting quality	Competitive balance	Distance (Cost)	Promotion/ Relegation
Current structure	0	0	0	0
1+1+1+2	++	++	-	++
1+1+1+3	+	+	-	+
1+1+1+4	+	+	-	+
1+1+2+4	++	++	0	++
1+1+3	+	+	-	+
1+2+4	--	0	+	+

6.3 Conclusions

Changing the pyramid structure will hardly be felt by the clubs that always play in the Tippeligaen. For the lower benchmark groups the choice for the pyramid structure is really important.

It appears that sporting quality and competitive balance increase when the pyramid is more like the shape of a bottle. Now 56 teams all play at the same level of 2. Divisjon, but if you divide them vertically instead of horizontally, you actually group them together sorted by strength. This means that matches are in general tighter, which means that the competitions are more attractive.

The analysis also shows that promoted teams have a better chance to survive at a higher level. Their opponents were better on average in the league were they gained promotion, such that they stand a better chance to do well one level higher.

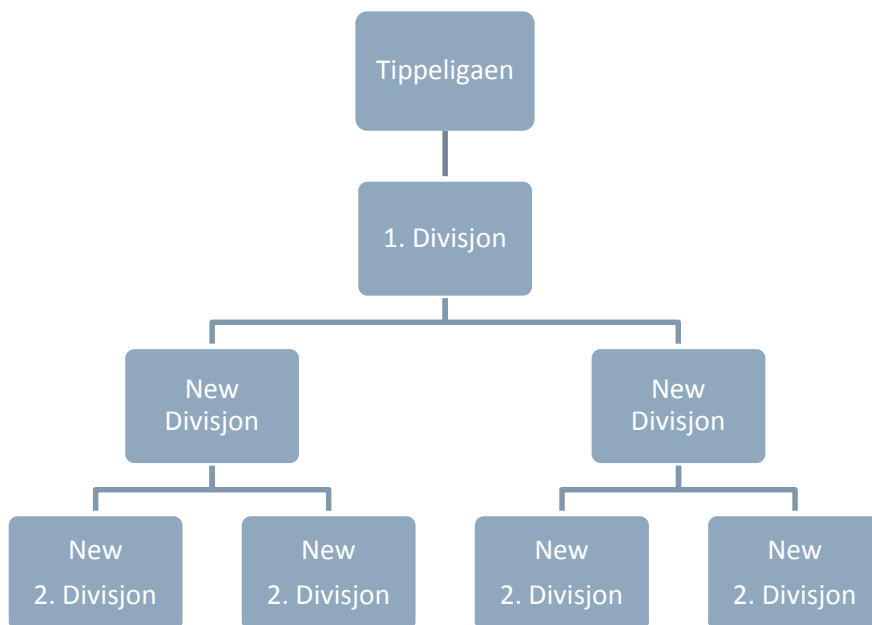
With regard to distance (cost), it is rather the contrary: the more the pyramid widens toward the lower divisions, the better. If there are several leagues at the same level, it is possible to divide the country into regions, and assign each a league. This makes it more cost effective.

For promotion/ relegation the ratio between two consecutive levels is ideally 1:1 or 1:2. That avoids too many relegations or too few promotions.

It could also give more chances for promotion: if you want to promote now from 2. Divisjon you have to win because the ratio is 1:4 and in total 4 clubs will be promoted; whereas if the ratio is 1:2 and still 4 clubs will be promoted, both the winners and the runners-up will gain promotion. Instead of giving more chances for promotion, you might also diminish the risk of relegation: to avoid relegation now from 1. Divisjon, you better stay away from the bottom 4 spots; whereas if the ratio is 1:2 and you keep the rule in place that only the winners from 2. Divisjon earn promotion, only the bottom 2 will be relegated from 1. Divisjon. This will give clubs that were promoted a better chance to survive.

So a more balanced ratio either gives more chances for promotion or a better chance for a lasting promotion. This again points to a bottle-shaped structure.

Evidently, 1+1+2+4 is the best pyramid structure for Norwegian football.



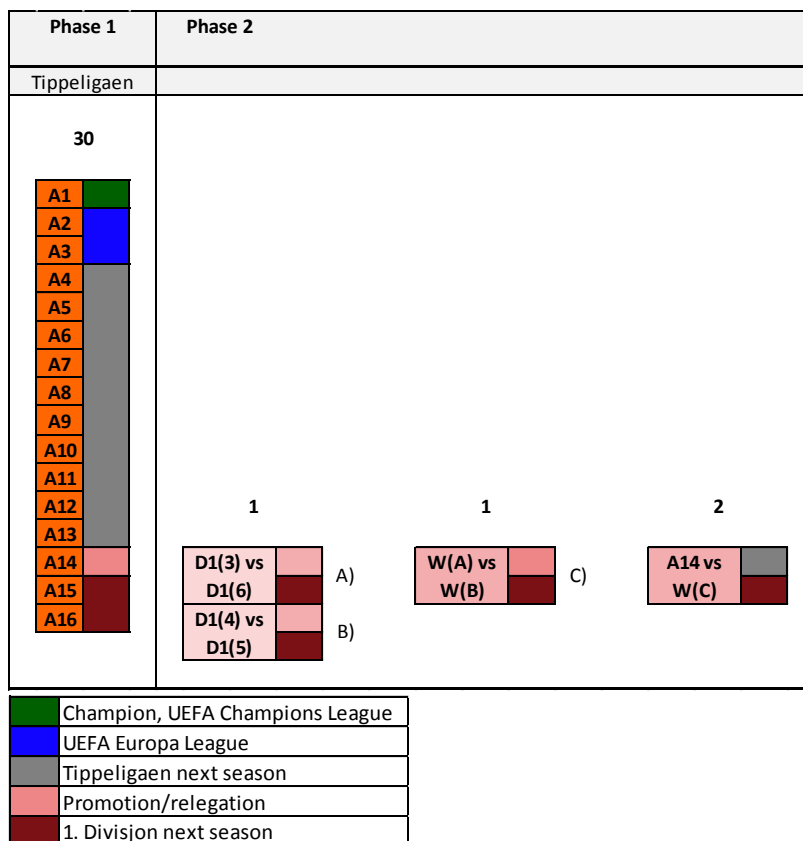
The restructuring of the pyramid gives a good opportunity to decide on appropriate names for the new league levels, for instance if a sponsor can be found.



7 Evaluation of the current competition format

7.1 Round-robin with 16 teams

The current competition format is a round-robin with 16 teams: each team meets every other team twice, home and away. The champion of the Tippeligaen qualifies for Champions League, and the runner-up and 3rd team qualify for Europa League. The two last teams relegate, and the team ranked 14th enters a play-out against team from the 1. Divisjon. In two matches, home and away, it is decided who takes the final spot in the top flight next season.



7.2 Strengths and weaknesses

A strength of this competition format is the clear structure and the fairness that results from that. All teams play 30 matches, and the team with most points wins the championship.

But there are also some obvious weaknesses. It is simple and fair also because there is only one stage with one apotheosis, or one moment of either glory or disaster (winning the championship or relegating). For instance, after a regular round-robin competition you could add play-offs or divide the clubs into smaller groups, which either play for the championship, European tickets, or fight against relegation, thus creating multiple moments of truth. Will your club qualify for the top group in the second stage of the season, and will it win the championship?

Also, towards the end of the season in the present format, midrange clubs have nothing play for any more. They are (almost) certain that they won't relegate, but (almost) certain as well that they won't be the champions or win a European ticket. So it is likely that there are a quite a number of dead matches. In other words, competition progress is clearly not optimal.

Also, there are quite large differences in sporting strength. Even though the traditional top clubs have lost a bit of sporting quality in recent years, the differences are still severe. That means that some matches are rather predictable. Or, to put it differently, competitive balance is not optimal.

7.3 Guiding principles when designing alternatives

The qualitative evaluation of the current format already points at several ways to change it, and some constraints or guide lines for designing a viable alternative.

- Number of teams
A smaller league in general implies that the teams are closer in terms of sporting quality. So competitive balance is better. This implies that competition progress will be better too: the teams at the bottom have a fair chance to beat the top teams and so might improve their rank. If you stick to a traditional round-robin, reducing the number of teams also implies that you play less matches.
- Single, double, triple round-robin
A round-robin is traditionally a 'double' round-robin, with every team meets every other team home and away. But it could also be a single, triple or even quadruple round-robin, with every team meeting every other team once, three or four times. An odd number means that an asymmetry is introduced: if you meet another team once, you either meet them at home or away but not both, and something similar applies to triple round-robin.
- Number of stages
As explained above, the current format comprises of only one stage. This is good for fairness, but by adding more stages there are more moments of truth. This is likely to improve competition progress.
- Play-offs vs. round-robin

We advise to implement a new competition format for the Tippeligaen, but for the lower tiers only change the pyramid structure and not the competition format.

Since the 1. Divisjon should be a youth development league, the pyramid change will ensure that the relegation stress is limited and that the youth will have enough opportunities to develop. The changes should be done on the requirements for licensing: the requirements could be eased for 1. Divisjon while in third level some requirements could be instated.

8

8 Evaluation of alternative competition formats

A lot of alternative competition formats have been analysed. After a first selection, 3 alternatives remained and we looked for minor adjustments for optimization. Here we present these 3 alternatives, the reasons behind their design, and the results of their evaluation. The other alternatives can be found in the appendix.

The evaluation is done by simulating the competition 100 times in five consecutive seasons, and then computing their scores on all the result dimensions.

8.1 Alternative formats

In this paragraph we describe the three alternatives. The details for the rules for promotion and relegation could be finalized during the transition season.

8.1.1 Format with 12 teams

This format starts with 12 teams that play each other two times. This results in 22 matches for each club. After this first stage, the top-6 and bottom-6 are split into two separate groups. The top group plays for the championship and tickets into Europe, while the bottom group fights against relegation. The clubs keep half of the points obtained in the first stage. They play a double round-robin in their group, so this yields 10 more matches for all clubs. The total amount of matches for each club is 32.

Eventually the top-6 deliver:

- Number 1: champion and qualified for UEFA Champions League qualification
- Numbers 2 and 3: qualified for UEFA Europa League qualification
- Number 4: if both cup finalists are in the top-3, then this team is qualified for UEFA Europa League qualification

And the bottom-6 deliver:

- Numbers 4 and 5: qualified for play-out matches with second level to avoid relegation
- Number 6: relegated to second level

The champion of the second level is directly promoted to the first level.

This model is named “model 12” in the following chapters of this report.

Stage 1	First PO stage	Final play-off stage																																																																					
Tippeligaen																																																																							
22	10																																																																						
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8.1.2 Formats with 14 teams

The formats with 14 teams are of the kind called ‘Belgium’, as they are much like the format that is now used in the Belgian Jupiler Pro League. There are two such formats with small differences. The basis is a double round-robin with 14 teams, which is then split into three groups. The top group plays for the championship, the middle group delivers one team that is given the chance to qualify for the last European ticket in a play-off against a club from the top group, and the bottom group fights against relegation. The two different versions of this format are explained below.

Model 14A (14-4-KO8-KO2)

This format starts with 14 teams that play each other two times. This results in 26 matches for each club. After these 26 matches the top-4, the middle-8 and bottom-2 are divided.

The top-4 carry over half of the points obtained in the first stage, and play each other again two times. This results in 6 more matches. The total amount of matches for the top-4 is 32. The final results are:

- Number 1: champion and qualified for UEFA Champions League qualification
- Number 2: qualified for UEFA Europa League qualification
- Number 3: qualified for play-off final for final ticket for UEFA Europa League qualification, however if both cup finalists are in the top-2, then the number 3 is qualified directly
- Number 4: if both cup finalists are in the top-3, then the number 4 is qualified for play-off final for final ticket for UEFA Europa League qualification

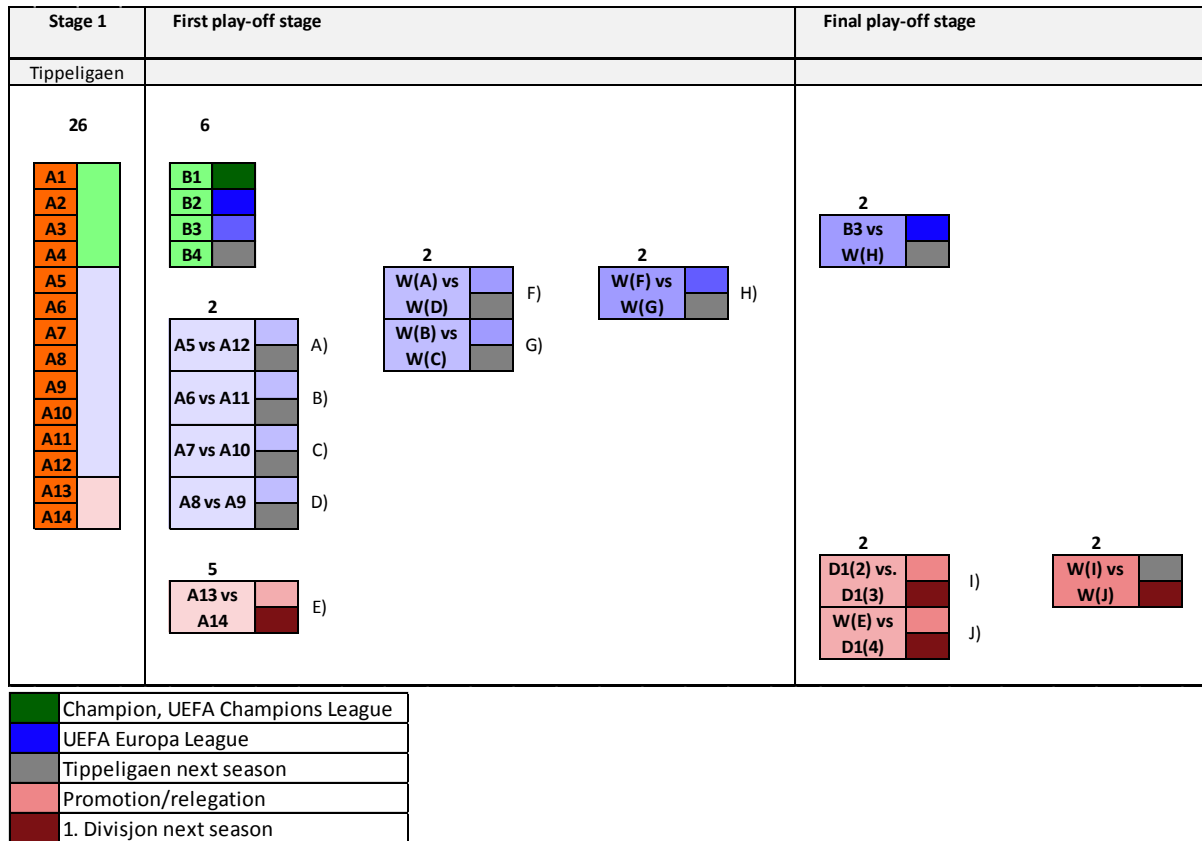
The middle-8 play a best-of-two knock-out tree. So the losers of the quarterfinal play only 2 matches, the losers of the semifinals 4 matches and both finalists 6 matches.

After the knock-out tree the middle-8 deliver:

- Number 1: qualified for play-off final for final ticket for UEFA Europa League qualification

The bottom-2 play in a best-of-five knock-out against each other. The club that ends number 13 in the first stage will obtain a head start of three points. The knock-out matches will decide which club will be relegated directly and which club has to play a play-out with the second level to avoid relegation.

This model is called “model 14A” in the following chapters of this report.



Model 14B (14-4-KO6-4)

This format is similar to the previous one with respect to its first stage and the second stage for the top-4. So this format starts with 14 teams that play each other two times. This results in 26 matches for each club. After that the top-4, the middle-6 and bottom-4 are divided.

So again, the top-4 keep half of the points obtained in the first stage and play each other again home and away. This results in an extra of 6 matches for each club of the top-4. The total amount of matches for each club is thus 32.

In the end the top-4 deliver:

- Number 1: champion and qualified for UEFA Champions League qualification
- Numbers 2: qualified for UEFA Europa League qualification
- Number 3: qualified for play-off final for final ticket for UEFA Europa League qualification, however if both cup finalists are in the top-2, then the number 3 is qualified directly
- Number 4: if both cup finalists are in the top-3, then the number 4 is qualified for play-off final for final ticket for UEFA Europa League qualification

For the middle group the format is really different. It counts only 6 teams instead of 8. They play a best-of-two knock-out tree, but the numbers 5 and 6 of the first stage have a bye in the first round. This results in an extra of 2 thru 6 matches for the clubs from the middle-6.

After the knock-out tree the middle-6 deliver:

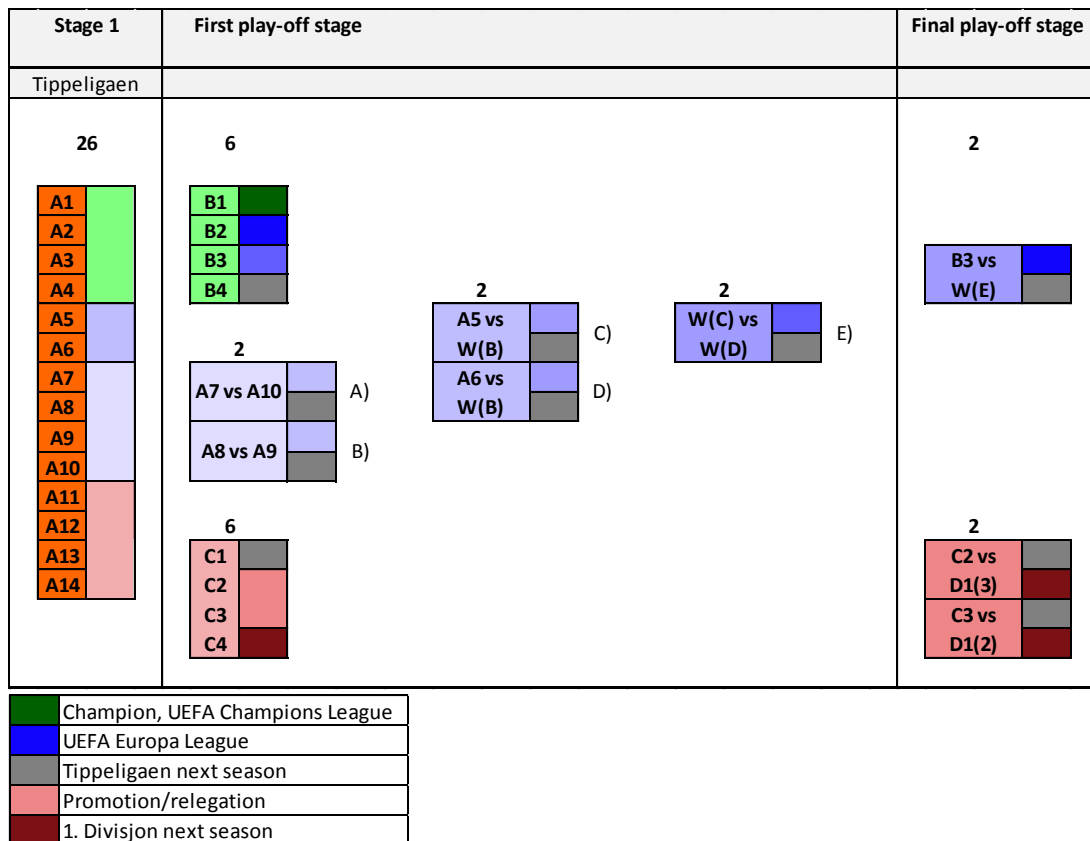
- Number 1: qualified for play-off final for final ticket for UEFA Europa League qualification

Now the bottom group consists of 4 teams instead of 2. They keep half of the points obtained in the first stage and play each other again two times. This results in 6 extra matches for each club, giving a total amount of matches for these clubs of 32.

Eventually the bottom-4 deliver:

- Numbers 2 and 3: qualified for play-out matches with second level to avoid relegation
- Number 4: relegated to second level

This model is called “model 14B” in the following chapters of this report.



8.2 Results

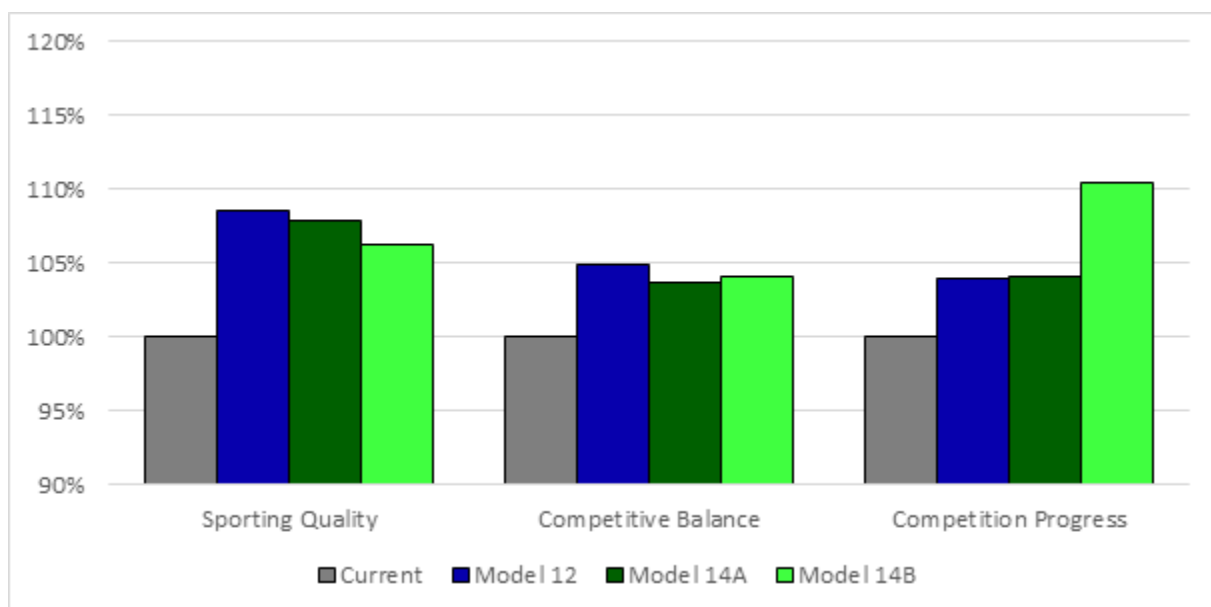
The alternative formats are compared with the current format on the different result dimensions. In the paragraphs below the results on each of the result dimensions are explained.

The weighing of the results is based on the input of the individual clubs (chapter 5). The clubs for which the results are measured are the clubs in Benchmark groups A, B and C: 20 clubs in total. The total score is calculated by weighting the scores of the benchmark groups with the respective weights 3, 2 and 1.

8.2.1 Sporting

The sporting result dimension consists of three components:

- Sporting quality
- Competitive balance
- Competition progress



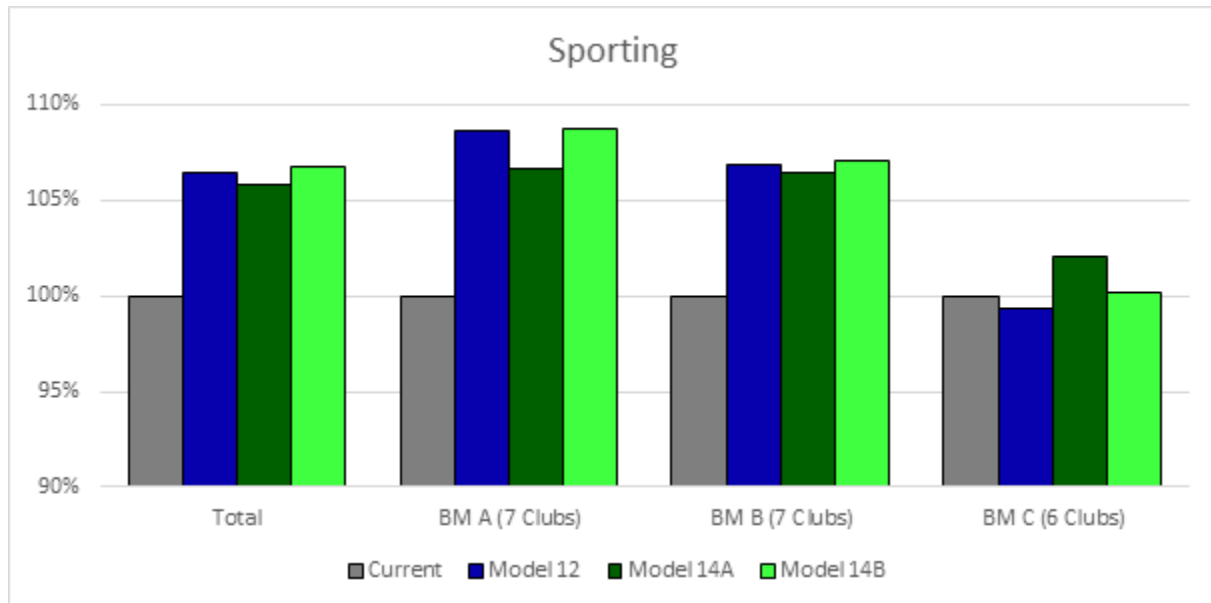
On all three sporting components, the alternatives score better than the format that is currently in place. On sporting quality and competitive balance Model 12 scores best, while on competition progress the Model 14B scores best.

Sporting quality increases in two stages. A more interesting competition with more tight matches will induce the clubs to play better. But then, as explained above in sections 4.1 and 4.8, a more interesting competition will also give a boost to attendance and TV ratings, hence to revenues, which can then be invested in sporting quality again. All these effects will be described in the next paragraphs, here it is important to stress the fact that sporting quality gets a boost in all these alternative competition formats.

Model 14B scores best with regard to competition progress. This owes to the fact that the bottom 4 clubs will play a round-robin group after the regular competition. This stage will be a close fight against relegation. Moreover, during the regular competition there are many teams which might end up close to spot 10, and so fight for a place in the knock-out tree. In Model 14A, by contrast, only the bottom 2

clubs will have to fight against relegation in the second stage of the competition, and a lot of clubs will quickly be certain that they won't be one of them. Actually, they will be quite quickly be certain that they will qualify for the knock-out tree.

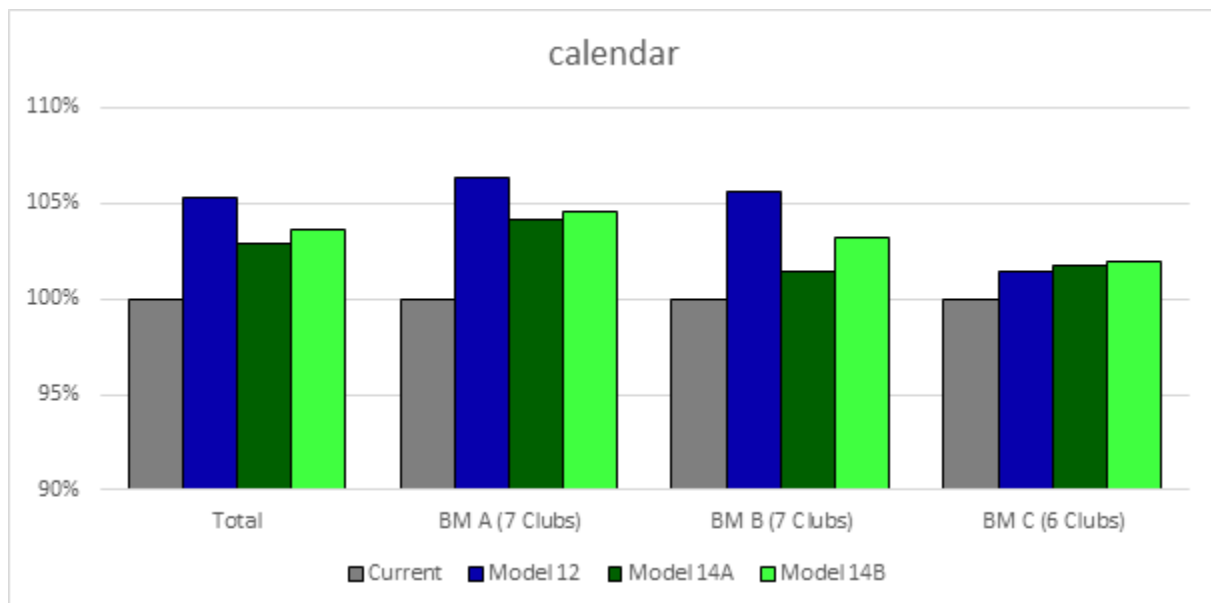
These components are combined to a total score per benchmark group (next graph).



For benchmark group A the alternatives scores best on the sporting result dimension. For benchmark group B the alternatives are also better than the current format. For Benchmark group C Model 12 slightly worse, since in the alternatives there are fewer teams in the top flight and thus benchmark group C has more teams in second level. Combined Model 14B scores best.

8.2.2 Calendar

The optimal amount of matches for Tippeligaen is set to 32.

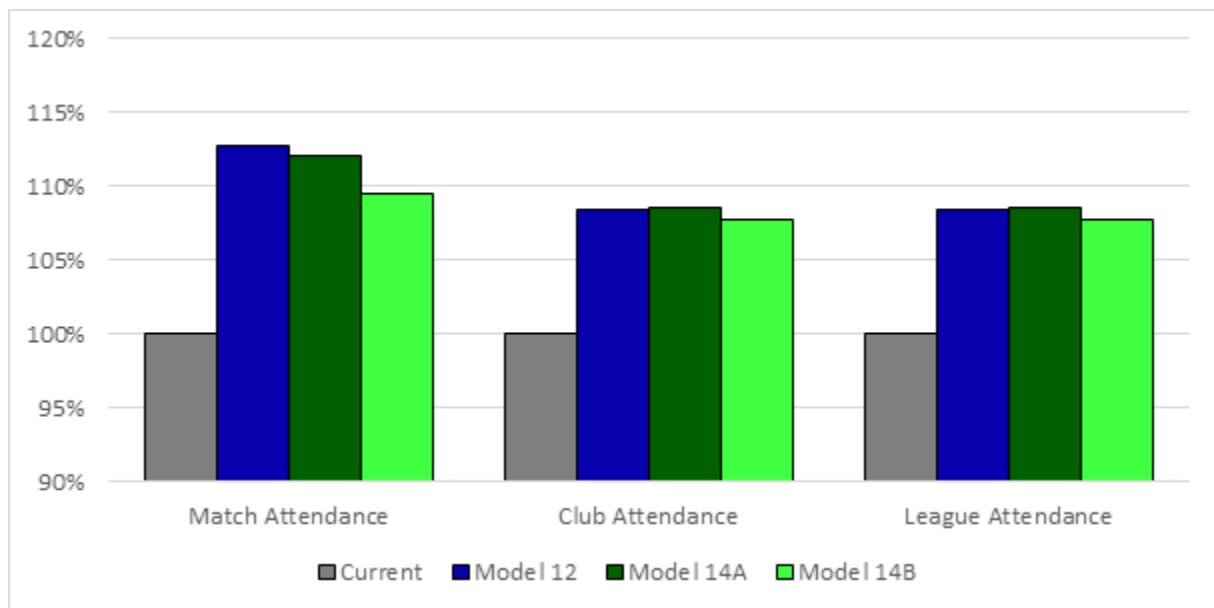


In the current format all clubs play 30 matches and the number 14 plays 2 in the play-out. In Model 14A and Model 14B, all clubs play between 28 and 34 matches. Model 12 guarantees 32 matches for each club and 34 matches for numbers 3, 4 and 5 of the bottom group. This model is closest to the optimum and scores best on this result dimension.

8.2.3 Attendance

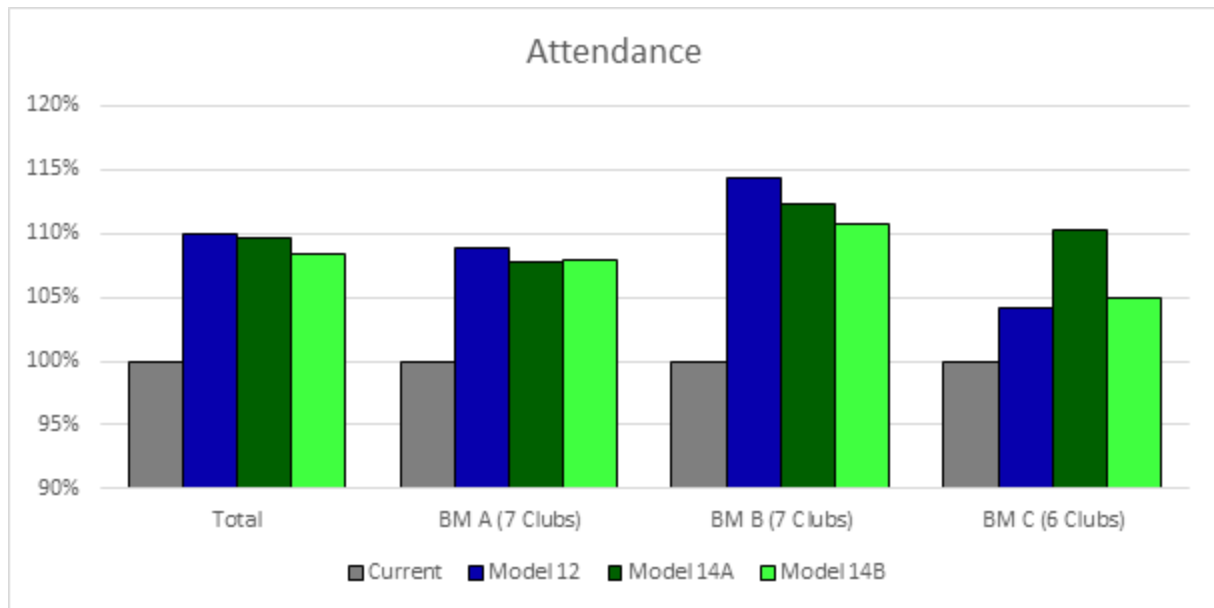
The attendance result dimension consists of three components:

- Match attendance (the average per match)
- Club attendance (the average of the attendance per club aggregated over the season)
- League attendance (the aggregated attendance over all matches in the season)



The attendance per match increases the most, since there are more interesting matches and sporting quality on pitch will be stronger. The attendance per club and per league also increase, firstly because there will be more matches per club on average than in the current format, and secondly because these matches are also more interesting for the audience than the matches that are played nowadays.

These components are combined to a total score per benchmark group (next graph).



For benchmark group A Model 12 scores best on the attendance result dimension. For benchmark group B the alternatives scores best and also Model 12 is the best alternative. For benchmark group C Model 14A scores best. This is because these clubs have a good chance to qualify for the knock-out tree, and in that case they have a couple of interesting matches ahead which will very much appeal to the fans. By contrast, in Model 14B only six teams are admitted into the knock-out tree and four teams will be in the bottom group, so teams from benchmark group C are more likely to end up in the fight against relegation instead of the fight for a ticket to UEFA Europa League Qualifications.

The disadvantage of Model 12 is clearly illustrated here: since only 12 teams will be participating in the top flight, the clubs from benchmark group C will be playing on the second level most seasons. Therefore, the average attendance is lower when compared to Models 14A and 14B. However, if they do participate in the Tippeligaen, they will benefit from the attractiveness of the competition format.

On the other hand, Model 12 will be beneficial to benchmark group B. These clubs are close to the critical places dividing the top group from the bottom group. And if they make it into the top group, they will have 5 more attractive home matches.

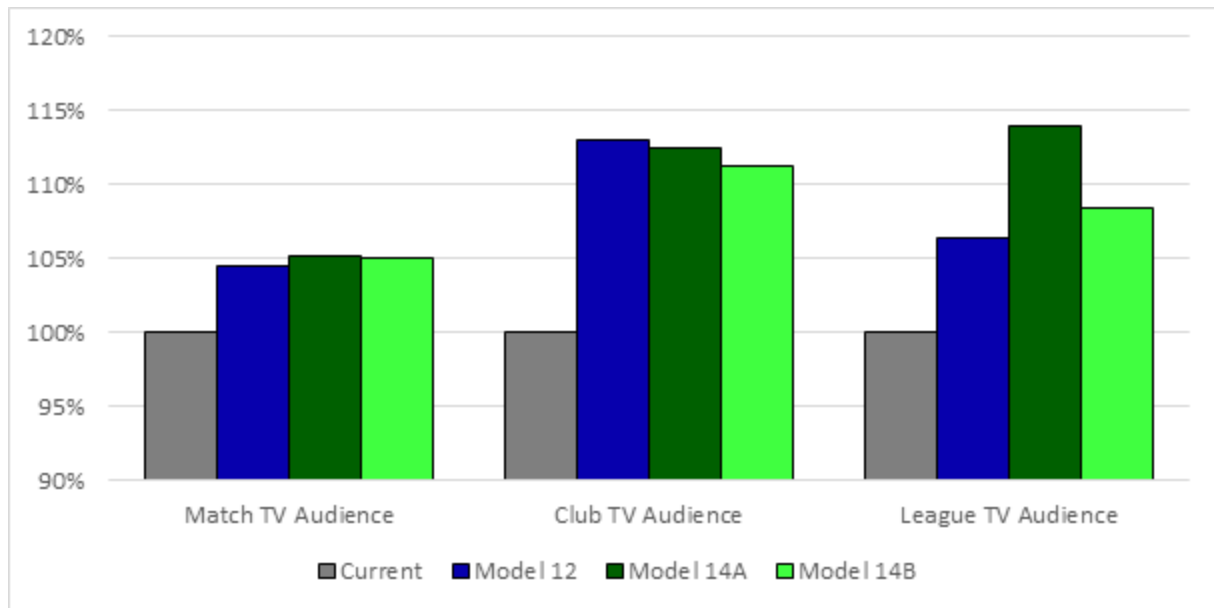
Combined Model 12 scores slightly better than Model 14A and Model 14B.

8.2.4 TV audience

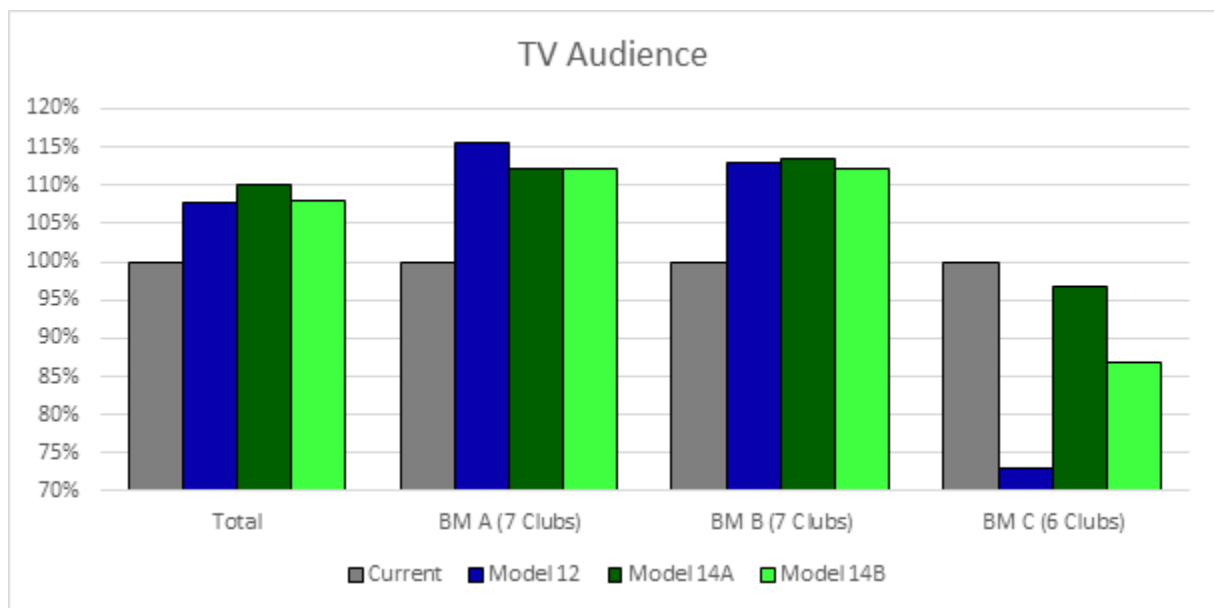
The TV audience result dimension consists of three components:

- Match TV Audience (the average per match)
- Club TV Audience (the average of the attendance per club aggregated over the season)
- League TV Audience (the aggregated attendance over all matches in the season)

The second and third pick are for Free to Air TV (FTA) and the other matches are scheduled on Pay TV (PTV). The results for FTA and PTV are interpreted separately and then combined to a total score for TV audience.



The TV audience per club increases the most, since there are more interesting matches to broadcast per round. The TV audience per league and per match also increases. These components are combined to a total score per benchmark group (next graph).



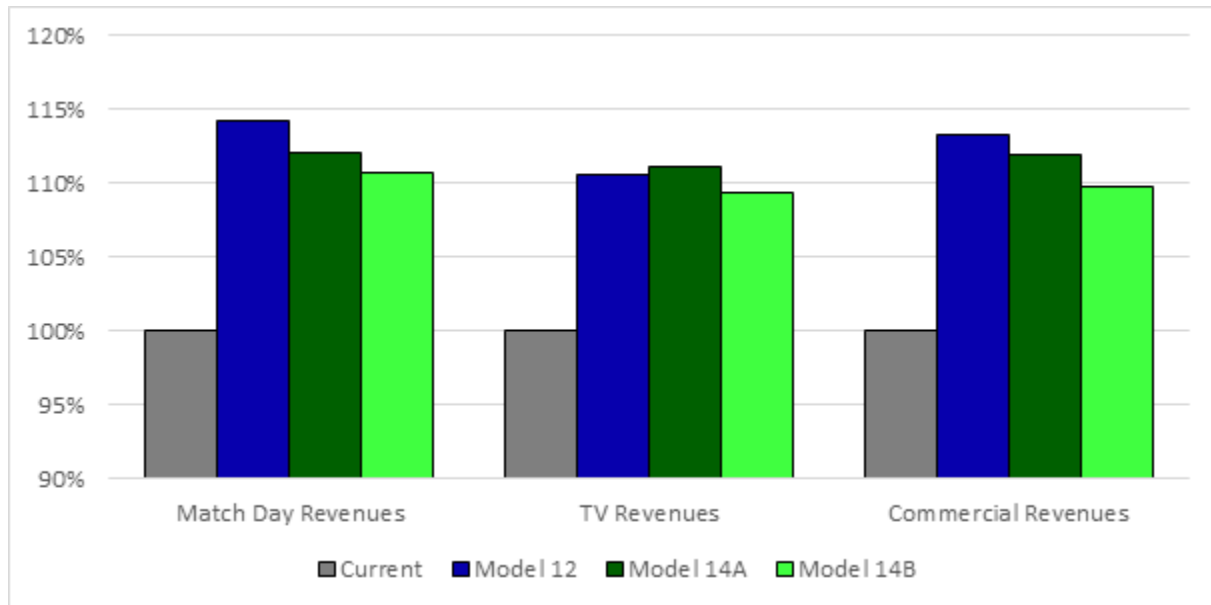
For benchmark groups A and B all models are more than 10% better than the current format. For benchmark group C the reduction of the number of teams participating in the Tippeligaen is detrimental to their TV audience. Nowadays, they play a couple of interesting matches which are broadcasted and attract a substantial amount of viewers (e.g. against Rosenborg BK). In the alternative formats, and especially in Model 12, these clubs will play in the 1. Divisjon most of the times.

Yet, Model 14A scores relatively well with regard to benchmark group C. This is because, if these clubs play in the Tippeligaen, they have a chance to qualify for the knock-out tree and escape the bottom group of 2, and these matches are likely to attract TV viewers. By contrast, in Model 14B it is more difficult to qualify for the knock-out tree, as the bottom group will consist of 4 teams. Therefore, combined Model 14A scores better than Model 14B and Model 12.

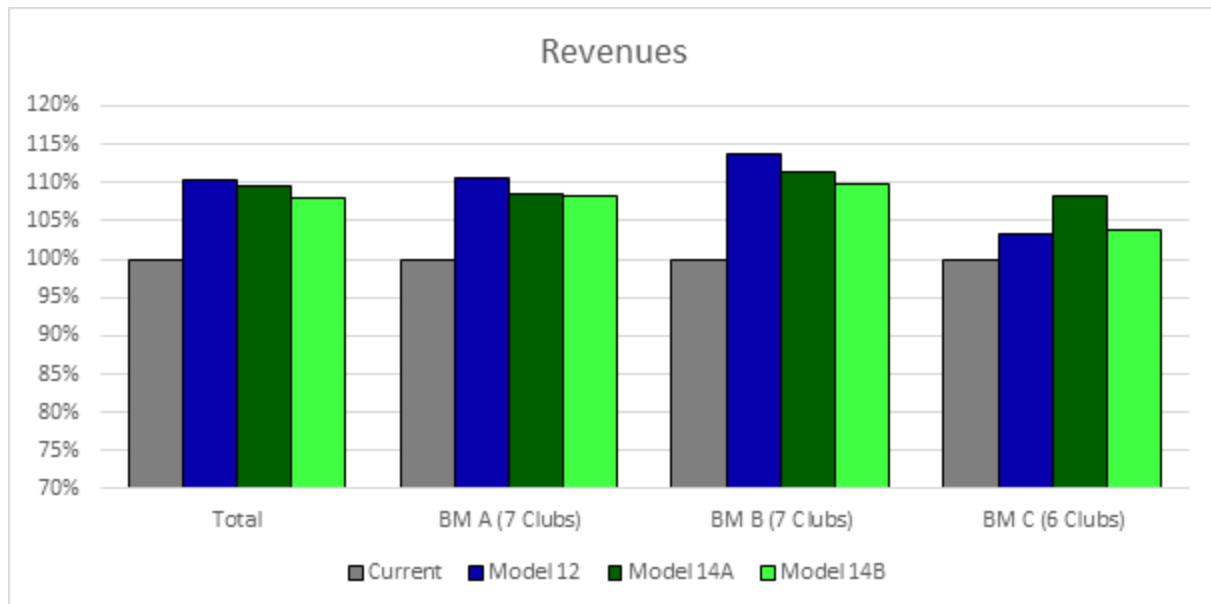
8.2.5 Revenues

The revenue result dimension consists of four components:

- Match day revenues
- TV revenues
- Commercial revenues
- European revenues



Match day revenues and commercial revenues are best in Model 12. The TV revenues are best in Model 14A.

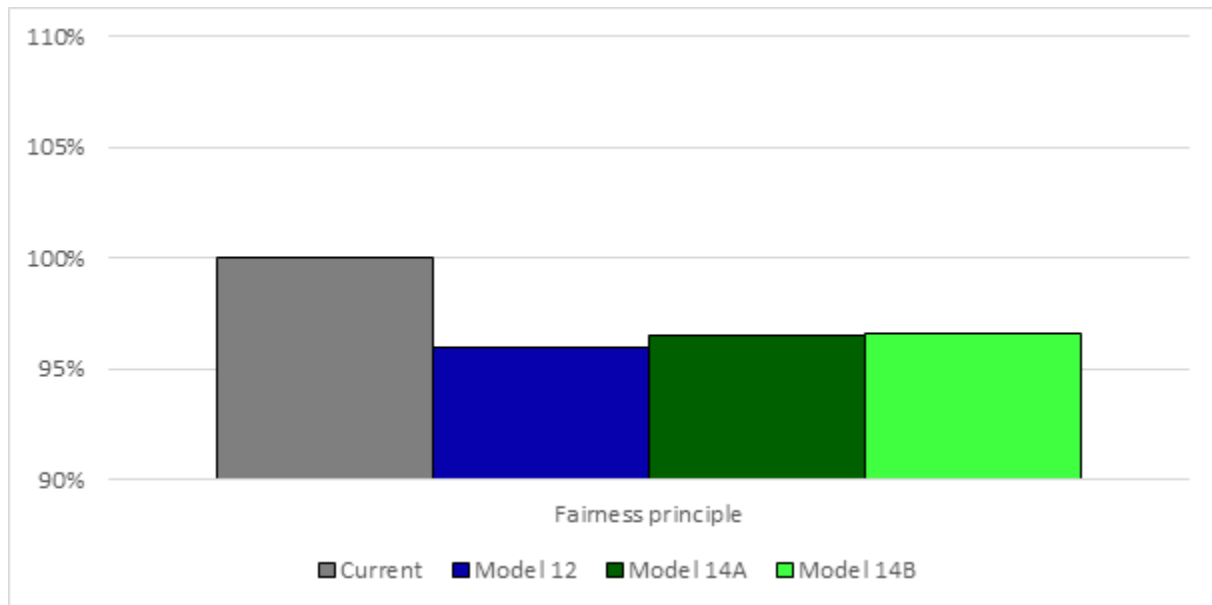


For benchmark group A all models are almost 10% better than the current format. For benchmark group B Model 14A and Model 14B score slightly worse than Model 12. For benchmark group C Model 14A is the best alternative. Combined all three alternatives will give an improvement of almost 10% in the revenues.

So all alternatives will yield more revenues. This is a consequence of the impact on the result dimensions described above: sporting quality, competitive balance and competition progress will all increase, as a consequence the attendance and TV audience will increase too, and therefore revenues from ticketing and the sponsoring value will increase as well.

8.2.6 Fairness principle

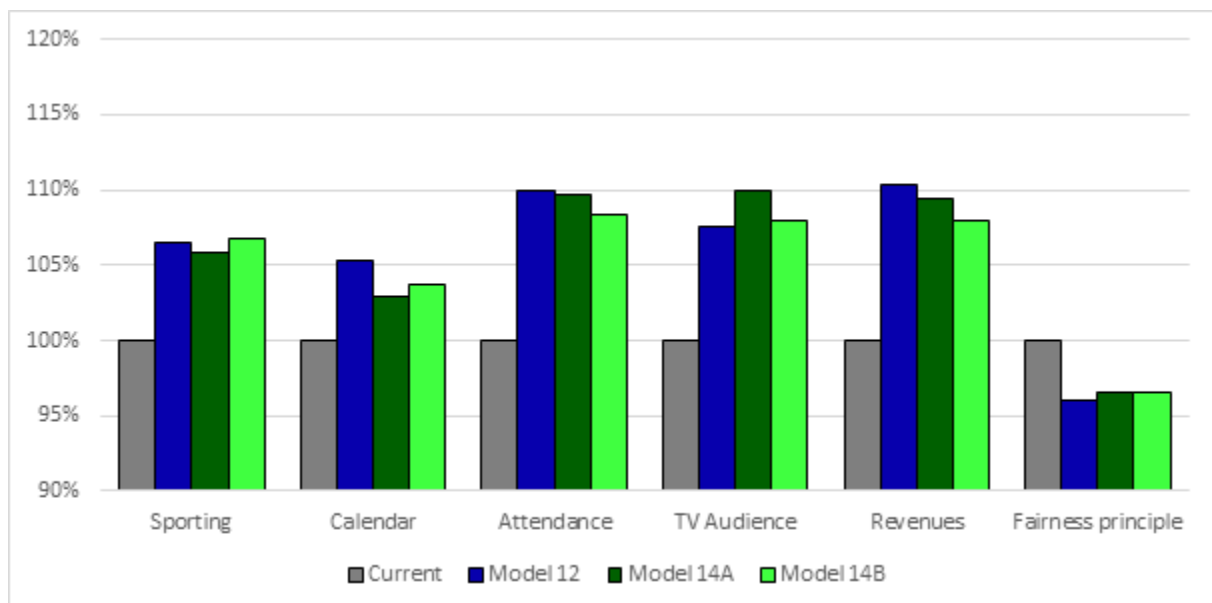
The fairness principle measures how often the one leading after the first stage will also be the champion after the second stage.



Of course, all models score slightly worse than the current format on this dimension. Nowadays there is only one stage, so the leading club after the first stage is always the champion. The alternatives, by contrast, all add a kind of twist to a normal round-robin.

8.2.7 Total evaluation

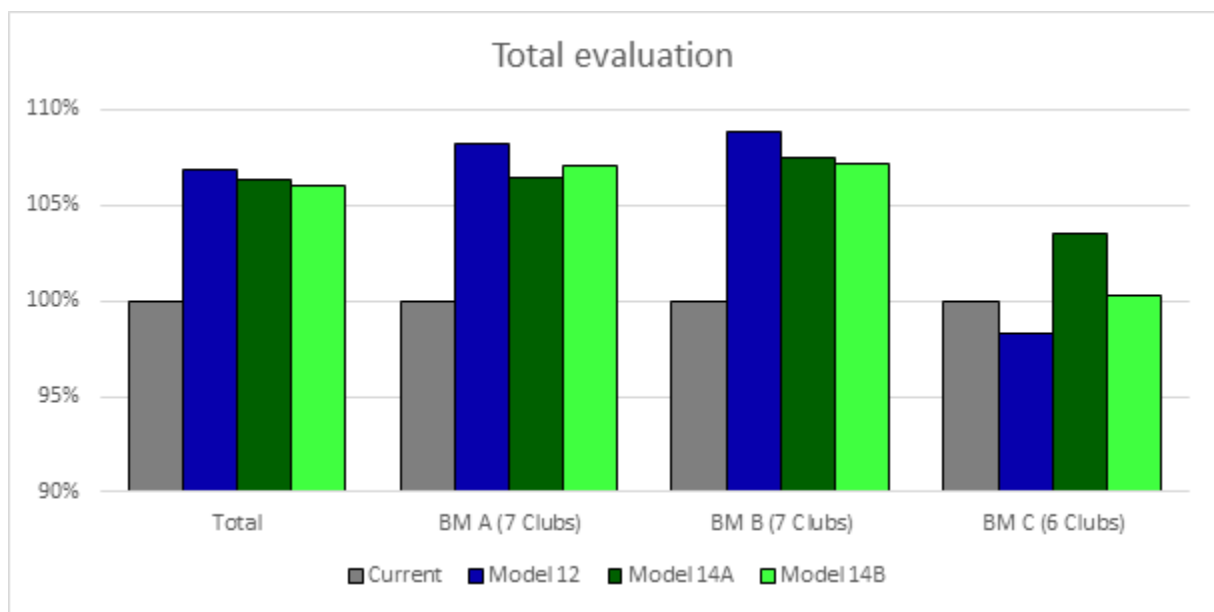
In the graph below all main result dimensions are presented.



The results show that:

- The current format is best on fairness
- Model 12 is best on calendar, attendance and revenues
- Model 14A is best on TV audience
- Model 14B is best on the sporting dimension

All these components are weighted to a total evaluation score, which is presented in the next graph.



The overall best result is different for each of the benchmark groups:

- For benchmark group A and B Model 12 is best, while Models 14A and 14B are a significant improvement compared to the current format.
- For benchmark group C Model 14A is best, Model 14B is more or less equal to the current format (it really depends, if these clubs participate in the Tippeligaen they will benefit from an improved competition format), while in Model 12 they most likely play in the 1. Divisjon.

The total score is calculated by weighting the scores of the benchmark groups with the respective weights 3, 2 and 1. The top clubs are given more importance. With these weights, Model 12 comes out best, by a small margin. If the benchmark groups are all given equal weights, then Model 14A would come out strongest, by a small margin.

So at this stage of our project we still have three excellent alternatives. We recommend to use the month of November to select the best of the three on the basis of the reception amongst the stakeholders. Hypercube will formulate their final management advice after having listened to all stakeholders during the month of November.

9

9 Conclusions and recommendations

The question that is central to this project has been to come up with a proposal for a new league structure, comprising of Tippeligaen, 1. Divisjon and 2. Divisjon. This includes both to the pyramid structure as a whole, and to the competition format on each level. The innovation of the format of Tippeligaen will independent to the choice have the following benefits in comparison with the continuation of the existing policy of a round robin competition with 16 teams.

- The sporting performance of the top 20 teams will increase with an average of 100 – 125 ECI points
- The sporting performance will lead to a climb of the UEFA Nations ranking for club teams with 5 to 10 spots
- Total revenues will increase with about 150 million NOK
- Match attendance will increase with smaller clubs 5 – 10% and bigger clubs 10 - 20%
- TV audiences will increase with 8 - 10%.

This comparison depicts the relative impact of the innovation. The absolute values are dependent on many exogenous to Norwegian professional football factors

After evaluating numerous alternative formats, at this stage of our project we have three excellent formats. These formats all score very well with respect to the result dimensions, while none is clearly better or worse than any others, the margins are quite small. Whichever format will be implemented, it is bound to be a major improvement over the present format.

We recommend to use the month of November to select the best of the three on the basis of the reception amongst the stakeholders. Hypercube will formulate their final management advice after having listened to all stakeholders during the month of November.

This conclusions and recommendations gives an answer to the question whether it would be better to change to a winter season and are concluded with a paragraph on migration.

9.1 Pyramid structure

The current pyramid structure can be summarized as 1+1+4. Tippeligaen consists of 16 clubs, just like 1. Divisjon, while 2. Divisjon consists of 4 times 14 clubs. Various alternatives have been evaluated on their impact on sporting quality, competitive balance, distance (costs) and promotion/ relegation.

It appears that sporting quality and competitive balance increase when the pyramid is more like the shape of a bottle. Now the 56 teams at the level of 2. Divisjon are grouped 'horizontally', while if you divide them vertically you actually group them together sorted by strength. This means that matches are in general tighter, which in turn means that the competitions are more attractive.

With regard to distance (cost), it is rather the contrary: the more the pyramid widens toward the lower divisions, the better. If there are several leagues at the same level, it is possible to divide the country into regions, and assign each a league. This makes it more cost effective.

For promotion/ relegation the ratio between two consecutive levels is ideally 1:1 or 1:2. That avoids too many relegations or too little promotion. Also, a more balanced ratio either gives more chances for promotion or a better chance for a lasting promotion. This again points to a bottle-shaped structure.

The analysis proves that 1+1+2+4 and 1+1+1+2 are the best structures for the top of Norwegian football.

The 1+1+2+4 will introduce one new level between the existing 1. Divisjon and 2. Divisjon will bring the following benefits:

- For 1. Divisjon less teams will be under relegation stress. This allows the division to fulfil its natural role as development division where the younger players can prepare themselves for the step towards the absolute top: Tippeligaen
- The top half of the 2. Divisjon will be part of a much stronger and tighter league than they are currently part of. Numbers around 30 thru 60 instead of around 30 thru 90.
- Apart from the winners also the runners up will have the option to compete in a play-off for promotion to the 1. Divisjon.
- The bottom half of the teams of 2. Divisjon will be part of the upper half of the new second division and therefore be contesting for the title more often and also win more games than they are currently used to.
- The B-teams of the top teams will be starting all at the same level, i.e. the new second division and therefore all operate at the same level. In the future the ones that are strong enough to go up will then be confronted with a more competitive environment.

The 1+1+1+2 would be too disruptive since it incurs the introduction of two new levels starting from today's pyramid.

The impact of the costs forms no reason to opt for the 1+1+1+2 since they are limited as a percentage of the overall cost budget.

We recommend to change the names of the levels of the pyramid to avoid the negative impact of the feeling of half a relegation throughout the pyramid. We recommend to introduce besides Tippeligaen a new name for the 1. Divisjon like Extraklassen or Topklassen or National League. This allows for continuation of the numbering for all lower leagues. The two parallel leagues at tier three would then be the new 1. Divisjon whilst consecutively the fourth level would be the new 2. Divisjon.

9.2 League format

9.2.1 Need for change

Tippeligaen is ready to choose for an innovative format since the existing format has a number of disadvantages:

- Since there is only one stage with one apotheosis, or one moment of either glory or disaster (winning the championship or relegating).
- Towards the end of the season in the present format, midrange clubs have nothing play for any more. They are (almost) certain that they won't be relegated, but (almost) certain as well that they won't be the champions or win a European ticket. So it is likely that there are a quite a number of dead matches. In other words, competition progress is clearly not optimal.
- Also, there are quite large differences in sporting strength. Even though the traditional top clubs have lost a bit of sporting quality in recent years, the differences are still severe. That means that some matches are rather predictable. Or, to put it differently, competitive balance is not optimal.
- The sporting challenges for the stronger teams are throughout the season limited. They play each other once home and away and are not forced to the limits of their sporting capability. In football playing matches against teams of similar or even a little bit better strength provides you with the best lessons in practice.

9.2.2 Model 12

This model admits 12 teams in the Tippeligaen, which after a regular round-robin are divided into two groups of six, which again play a regular round-robin.

- Gives all teams 32 matches, which is actually the ideal amount.
- The competitive balance in the first group stage of 22 match days is high since there not many weak teams
- The competition progress in the first group stage is very high since the teams have to fight to get amongst the first 6 and half of the points will be carries over into the next group stage
- The competitive balance in the golden group of 10 matches is very high since in the group is formed around teams of more or less of equal strength
- The competition progress in the golden group is very high since the 6 participants fight for three prizes amongst which the highest award being the Norwegian Champions Title.
- The golden group will allow all 6 participants to play each other for the third and fourth time and therefore provide the best possible opposition and will give an excellent boost to the sporting performance of the top of Norwegian football.
- The competitive balance in the silver group of 10 matches is very high since in the group is formed around teams of more or less of equal strength
- The competition progress in the silver group is very high since the 6 participants fight to avoid the last three spots and amongst those at least the very last spot.
- The silver group will have no price for the top 3 outside not being involved in relegation.
- The champion of the 1. Divisjon will promote directly where the first two of the challenge tournament between numbers 2, 3, 4 and 5 can challenge numbers 10 and 11 of the Tippeligaen in a home and away series.

- The major downside is that there are only 12 teams playing on the highest level. This excludes 4 teams and their fan bases from Tippeligaen.
- The transition season will forecast a very harsh season for the bottom half of the Tippeligaen with 16 teams since 5 teams will have to relegate direct whilst number 11 bears the risk of losing challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon
- The transition season will allow only the champion to promote directly where the winner of the challenge tournament between numbers 2, 3, 4 and 5 has to face very fierce competition from that year's Tippeligaen number 10.

9.2.3 Model 14A

This model admits 14 teams to the Tippeligaen. After a regular round-robin, the top 4 teams enter a group playing for the championship. The middle 8 teams enter a knock-out tree, which eventually gives them a second chance to qualify for a European ticket. The bottom 2 fight against relegation.

- Gives all teams between minimum 28 and maximum 33 matches, which is actually rather close to the ideal amount 32.
- The competitive balance in the first group stage of 26 match days is higher than today's competition with 16 teams but less than a competition with 12 teams.
- The competition progress in the first group stage is excellent since the teams have to fight to get either amongst the first 4. Apart from that they will fight to become 6th and 10th and for the golden and the bronze group half of the points will be carried over into the next group stage
- The competitive balance in the golden group of 6 match days is excellent since in the group is formed around teams of more or less of equal strength
- The competition progress in the golden group is excellent since the 4 participants fight for three prizes amongst which the highest award being the Norwegian Champions Title.
- The golden group will allow all 4 participants to play each other for the third and fourth time and therefore provide the best possible opposition and will give a boost to the sporting performance of the top of Norwegian football.
- The competitive balance in the silver knock out tournament is very high since in the group is formed around teams of more or less of equal strength
- The competition progress in the silver knock out competition is by its nature excellent.
- The silver knock out competition will give 6 teams still the option to obtain access to Europe.
- The competitive balance in the bronze group of 6 match days is excellent since in the group is formed around teams of more or less of equal strength
- The competition progress in the bronze group is very high since the 4 participants fight to avoid the last three spots and amongst those at least the very last spot.
- The champion of the 1. Divisjon will promote directly where the first two of the challenge tournament between numbers 2, 3, 4 and 5 can challenge numbers 12 and 13 of the Tippeligaen in a home and away series.
- The downside is that there are only 14 teams playing on the highest level. This excludes 2 teams and their fan bases from Tippeligaen.
- The transition season will forecast a tough season for the bottom half of the Tippeligaen with 16 teams since 3 teams will have to relegate direct and number 13 bears the risk of losing

challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon

- The transition season will allow only the champion to promote directly where the winner of the challenge tournament has to face fierce competition from that year's Tippeligaen number 12.

9.2.4 Model 14B

This competition format is very similar to Model 14A: after a regular round-robin, the top 4 contend for the championship. Then, the middle 6 teams enter a knock-out tree. And the bottom 4 fight in a group against relegation.

- Gives all teams between minimum 28 and maximum 33 matches, which is actually rather close to the ideal amount 32.
- The competitive balance in the first group stage of 26 match days is higher than today's competition with 16 teams but less than a competition with 12 teams.
- The competition progress in the first group stage is excellent since the teams have to fight to get either amongst the first 4. Apart from that they will fight to become 6th and 12th and for the golden group half of the points will be carried over.
- The competitive balance in the golden group of 6 match days is excellent since in the group is formed around teams of more or less of equal strength.
- The competition progress in the golden group is excellent since the 4 participants fight for three prizes amongst which the highest award being the Norwegian Champions Title.
- The golden group will allow all 4 participants to play each other for the third and fourth time and therefore provide the best possible opposition and will give a boost to the sporting performance of the top of Norwegian football.
- The competitive balance in the silver knock out tournament is high since in the group is formed around teams of more or less of equal strength
- The competition progress in the silver knock out competition is by its nature excellent.
- The silver knock out competition will give 8 teams still the option to obtain access to Europe.
- The competitive balance in the bronze knock out tournament is excellent since in the group is formed around two teams of more or less of equal strength
- The competition progress in the bronze knock out competition is by its nature excellent.
- The champion of the 1. Divisjon will promote directly where the winner of the challenge tournament between numbers 2, 3, 4 and 5 can challenge numbers 13 of the Tippeligaen in a home and away series.
- The downside is that there are only 14 teams playing on the highest level. This excludes 2 teams and their fan bases from Tippeligaen.
- The transition season will forecast a tough season for the bottom half of the Tippeligaen with 16 teams since 3 teams will have to relegate direct and number 13 bears the risk of losing challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon
- The transition season will allow only the champion to promote directly where the winner of the challenge tournament has to face fierce competition from that year's Tippeligaen number 12.

9.3 Summer or winter season

Every once in a while the question comes up whether to change to a winter season. We recommend to keep it that way.

It might be good to bring the Norwegian season in tune with the rest of Europe, but it is difficult to find the necessary match dates. The summer months would be reserved for preparing for next season, while these are actually the best months to play. And it is best not to schedule matches in the winter months, because of practical problems but even more so because the winter months will see fierce competition with the winter sports.

The cup could be changed to a winter season. Then there are two different apothoses at two moments of the year: the championship is decided in October/ November, while the cup final is in April/ May. This could be the best of both worlds, and recommend this combined approach to the league and the cup. The cup winner has then to maintain its form and constitution only for two months and will have better prospects to survive in the European qualifications.

9.4 Transition season

The choices that will eventually be made on the above three topics (pyramid structure, league format, and summer or winter season) will also bring about the necessity for a transition season. This is considerably easier when the summer season is retained, though.

The Tippeligaen will either consist of 12 or 14 teams. This means that, in addition to the regular relegations/ promotions, 2 or 4 clubs will be relegated in a transition season. Alternatively, the amount of relegations/ promotions can be diminished, thus diminishing the total number of clubs that have to be relegated.

Model 12:

- The transition season will forecast a very harsh season for the bottom half of the Tippeligaen with 16 teams since 5 teams will have to be relegated directly whilst number 11 bears the risk of losing challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon.
- The transition season will allow only the champion to promote directly where the winner of the challenge tournament between numbers 2, 3, 4 and 5 has to face very fierce competition from that year's Tippeligaen number 10.

Model 14A:

- The transition season will forecast a tough season for the bottom half of the Tippeligaen with 16 teams since 3 teams will have to be relegated directly and number 13 bears the risk of losing challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon.
- The transition season will allow only the champion to promote directly where the winner of the challenge tournament has to face fierce competition from that year's Tippeligaen number 12.

Model 14B:

- The transition season will forecast a tough season for the bottom half of the Tippeligaen with 16 teams since 3 teams will have to relegate direct and number 13 bears the risk of losing challenge matches against the winner of challenge competition between numbers 2, 3, 4 and 5 of that year's 1. Divisjon.
- The transition season will allow only the champion to promote directly where the winner of the challenge tournament has to face fierce competition from that year's Tippeligaen number 12.

Dependent upon the outcome of the decision making process we can decide how to implement.

If all stakeholders tend to agree upon the same winning format by the end of November we can use the three months period towards the general assembly to work out all the details for the migration year. This can lead to a decision about both the new format as well as the migration season in March 2015 followed by a migration season in 2015 and an implementation of the new formats in 2016. If more time is needed to converge all forces we recommend, decision in 2015, migration in season 2016 and implementation in 2017.

Appen- dices

Appendix I. Glossary

Critical success factors (CSF's): the driving forces behind certain trends or correlations. By means of statistical analysis of the data, it is possible to get an understanding for the relevant and significant correlations, and thus to explicate the sports economics cycle. After such analysis, we are able to pinpoint trends and to identify the critical success factors, that is, the driving forces after these trends.

Result dimensions: those aspects of a competition format that determine if it is to be valued as a good format or not. The alternative competition formats will be evaluated against the result dimensions. They are (y)our guiding principles. What the result dimensions are in this Norwegian case, and how much weight they will carry, is decided by the Norwegian clubs.

Benchmark group (BM): a format may be beneficial to top teams while it has a negative effect on teams at the bottom, or vice versa. We have clustered all Norwegian clubs into benchmark groups, so as to make clear the different results a format might have for clubs that aren't directly comparable.

Sporting quality: the sporting quality of the two teams on the pitch. We use the Euro Club Index to measure the teams' sporting quality. For a competition format, the integral sporting quality is built up from:

- the average ECI's over all matches of the home team,
- the average ECI's over all matches of the away team,
- and the average ECI's over all matches of the best team on the pitch (for the neutral football supporter)

We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups. This means that we compute the sporting quality according to a selection of the matches, where a relevant team is playing.

Euro Club Index (ECI): a proxy for sporting strength. The league table is not the most reliable indicator of a club's sporting strength: a win against a strong opponent gives you the same three points as a win against a weak opponent, while the former is a much more impressive result. And yesterday's match tells you more about a team's strength than one played a year ago. We developed the Euro Club Index to take into account exactly those aspects.

The Euro Club Index provides an objective measure of sporting strength. This shows in the facts that:

- it correlates very well with a club's financial figures such as turnover and team costs,
- and it is an excellent predictor of match results (beating the bookies).

See more details at www.euroclubindex.com.

Competitive balance (CB): the difference in sporting strength between the teams on the pitch. If both teams are of equal strength, the balance is optimal, and the outcome of the match is highly unpredictable.

Competitive balance is a feature that translates easily from a single match to a competition as a whole. A balanced competition is one with minor variety in sporting strength between the participating teams, and a balanced competition is also an unpredictable one.

We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups. If you reduce the number of teams participating in the Tippeligaen, then the competitive balance for the top teams will increase, while there are additional clubs that need to be relegated and for them, now playing in the Divisjon 1, the competitive balance may decrease.

Competition progress (CP): the significance of a single match for the outcome of the competition (or a relevant stage in the competition). For instance, if on the last match day nr. 1 is 4 points ahead of nr. 2, then the competition progress is 0. Yet, if they have an equal amount of points, the competition progress is maximal. Competition progress also shows up in the fight against relegation.

We call it competition progress, because it indicates if a competition is close to settling on the final outcome. Usually, competition progress is low early in the season and steadily increases, before collapsing in the final rounds. In the current format, once you know that you will end up somewhere between the 4th and the 13th spot, there is nothing for you at stake. Introduction of play-offs is likely to affect this.

We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups.

Players congestion: a high number of matches for a club might be too much to ask for its players. We ask you to give an optimal amount of matches, and evaluate a competition format according to its deviation from this. Of course, formats that require far too many (or too few) matches for a club will be dismissed.

We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups. Not all clubs necessarily play the same number of matches, especially if you introduce play-offs.

Calendar utilization: a round-robin competition with 16 teams takes 30 rounds, but other formats might take a different number of rounds. Because of that, the required number of match dates may vary. We ask you to give an optimal number of match dates, and evaluate a competition format according to its deviation from this. Of course, formats that require far too many (or too few) match dates will be dismissed. Benchmark groups don't apply here.

Match attendance: the average match attendance over all matches played in the competition. We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups.

Club attendance: the attendances for a club summed over all matches that the club plays in a season. We evaluate a competition format according to the average over all clubs, but we also distinguish between benchmark groups. The difference with match attendance becomes clear once you realize that, while a format may be beneficial to a club's average match attendance, if it also means that the club plays less matches, it will most likely have a negative impact on the total attendance summed over the whole season.

League attendance: the attendance summed over all matches played in a season. Benchmark groups don't apply here.

Example: the Tippeligaen is now a round-robin competition with 16 teams. Suppose all matches attract 12.000 spectators. Match attendance = 12.000, league attendance = 30 rounds * 8 matches * 12.000 = 2.880.000, and club attendance = 15 matches * 12.000 = 180.000.

Another format proposes to have 18 teams round-robin. Suppose all matches attract 10.000 spectators (because they are less exciting). Match attendance = 10.000, league attendance = 34 rounds * 9 matches * 10.000 = 3.060.000, and club attendance = 17 matches * 10.000 = 170.000.

So match attendance is lower (-17%), league attendance is higher (+6%) and club attendance is lower (-6%).

Match TV audience: (similar to match attendance) the average TV audience over all matches played in the competition. We evaluate a competition format according to the overall average, but we also distinguish between benchmark groups.

Club TV audience: (similar to club attendance) the TV audience for a club summed over all matches that the club plays in a season. We evaluate a competition format according to the average over all clubs, but we also distinguish between benchmark groups.

League TV audience: (similar to league attendance) the attendance summed over all matches played in a season. Benchmark groups don't apply here.

Match day revenues: the revenues out of ticketing per season. We evaluate a competition format according to the overall sum, but we also distinguish between benchmark groups. Match day revenues are of course related to the number of matches and the match attendance.

TV revenues: the potential revenues from TV contracts. Since we know why people are watching football on TV from statistical analysis, we can give a reasonably good estimate. Of course, the actual revenues depend on the terms of the contracts. We evaluate a competition format according to the overall sum, but we also distinguish between benchmark groups.

Commercial revenues: the revenues from sponsoring. We evaluate a competition format according to the overall sum, but we also distinguish between benchmark groups.

European revenues: the revenues from performance in the UEFA Champions League and UEFA Europa League. We evaluate a competition format according to the overall sum, but we also distinguish between benchmark groups. We assume the number of access tickets to stay as it is now, so only few benchmark groups are relevant here. However, suppose that you have a play-off system for the second Europa League ticket between teams 3 thru 10, then they all have a chance to enter into the European competitions.

Fairness principle: a format could have play-offs for the championship after the regular competition. The fairness principle is the chance that the best team of the regular competition also really wins the title (after such play-offs).

Appendix II. Impact of the Fair Play Ticket

The three highest placed national associations in the UEFA Respect Fair Play ranking will each automatically gain an extra spot in the Europa League First Qualifying Round. These spots are allocated to the highest placed club in that association's own Fair Play ranking that has not yet qualified for either the UEFA Champions League or the UEFA Europa League. From the season 2000/01 onwards, Norway received this Fair Play Ticket eight out of a possible fourteen times.

Many people are under the impression that this isn't at all beneficial to Norwegian football. This is understandable, as it is not necessarily a good team that gains the Fair Play Ticket, which is then knocked-out early in the tournament, and makes Norway actually lose points on the UEFA Country Coefficient.

However, analysis shows otherwise. What would have been Norway's coefficient if it wouldn't have been granted any Fair Play Ticket at all? It turns out that the impact of the Fair Play ticket was advantageous five times, and disadvantageous three times. Totalling all plusses and minuses gives a very small gain (+0.100). So the impact hasn't been negative. In fact, Viking Stavanger (2005/06), SK Brann (2006/07), Aalesunds FK (2011/12) and Tromsø IL (2013/14) were the best performing European contenders after receiving the Fair Play ticket.

Season	00/01	01/02	02/03	03/04	04/05	05/06	06/07
UEFA Country Coefficient	4.625	3.250	2.700	6.125	3.500	5.400	2.000
Without Fair Play ticket			3.375			4.500	1.750
Season	07/08	08/09	09/10	10/11	11/12	12/13	13/14
UEFA Country Coefficient	5.400	2.500	2.100	2.375	2.300	4.900	2.600
Without Fair Play ticket	6.500		2.000		1.500	5.875	2.000

Appendix III. Performance of Norwegian clubs in Europe

How did Norwegian clubs perform in the international clubs competitions, UEFA Champions League and Europa League? There are different ways to answer this question, but one way is to compare the results to what could have been expected given the Euro Club Index of the Norwegian clubs. The expected result of a match is determined by the ECI value of the two teams on the pitch. If the actual result is better than expected for the home team, the home team gains points on the ECI, otherwise it loses points.

A major reason that this a fair method, more so than just looking at if they won any matches, is that this increment also depends on the strength of the opponent. It is not a shame to lose against FC Barcelona, while a surprise victory against them yields more points than a win against for instance MŠK Žilina.

For all seasons since 2007/08 we looked at this increment. It turns out that Rosenborg BK, as the single contender since in the Champions League's main tournament, performed really well. The performance in the qualifications is on average just under expectation, but the performance in the Europa League's main tournament should have been better, that is, according to the ECI.

UEFA Champions League	# matches	ECI increment	average ECI increment	average ECI Norwegian teams	average ECI opponents
Qualification	30	-76	-3	2.235	1.811
Main Tournament	6	107	18	2.352	3.499
UEFA Europa League					
Qualification	108	-419	-4	1.982	1.653
Main Tournament	44	-303	-7	2.209	2.613

It is assumed that Norwegian clubs benefit from the fact that European qualification matches are scheduled when the Tippeligaen is well underway, while other leagues are still in pre-season. Results however show that Norwegian clubs perform worse than expected against teams from a winter competition.

UCL Qualification	# matches	ECI increment	average ECI increment
Summer	14	77	5
Winter	16	-152	-10
UEL Qualification			
Summer	34	-71	-2
Winter	74	-348	-5

Appendix IV. Average age of selections throughout Europe

Could Norway be the stepping stone for young, talented players before they make a move the top clubs in the major leagues in Europe? If this is your goal, you might well try to organize your competition in a way that helps clubs to take on this role. It would, among many other things, that they constantly have to rejuvenate their selections – or would it?

In fact, compared to other leagues, the players on the pitch are already relatively young in Norway. The table below gives the average age of all players who actually played, either in the first eleven or as a substitute, in the top leagues of the respective countries in 2013/14 (or, in case of a summer competition, in 2014).

country	age
Sweden	25,2
Norway	25,3
Belgium	25,9
Netherlands	25,9
Scotland	26,0
Germany	26,3
Portugal	26,4
Denmark	26,4
France	26,5
Spain	27,1
England	27,3
Russia	27,4
Italy	27,7
Turkey	28,2

How come Norway already has such young selections? This might be the case for various reasons. Do players make a transfer (too) early to bigger competitions? Does this apply to the most talented players only, or where do the less talented players go to when they get to their late twenties?

Appendix V. Impact of artificial turf on sporting results

As the number of football clubs playing on artificial turf (kunstgress) is increasing in Norway (and elsewhere), it is a valid question if there is an impact on the sporting results of these clubs. We have analysed the matches in the Tippeligaen since 2008, and concluded that playing on kunstgress does have a positive impact on sporting performance for the home team.

The relative sporting performance is measured by ECI increment (dECI), the increase or decrease of the ECI value after a positive or negative match performance. If the home team plays on kunstgress the average performance is significantly positive, even more so if the visiting team do not play their home matches on kunstgress (see table below, top rows). If the home team plays on natural grass, the average performance is negative, but less so if the visiting team play their home matches on kunstgress (see table below, bottom rows).

Tippeligaen		
Home	Visit	dECI
ART	NAT	2.0
ART	ART	1.2
NAT	ART	-0.2
NAT	NAT	-1.5

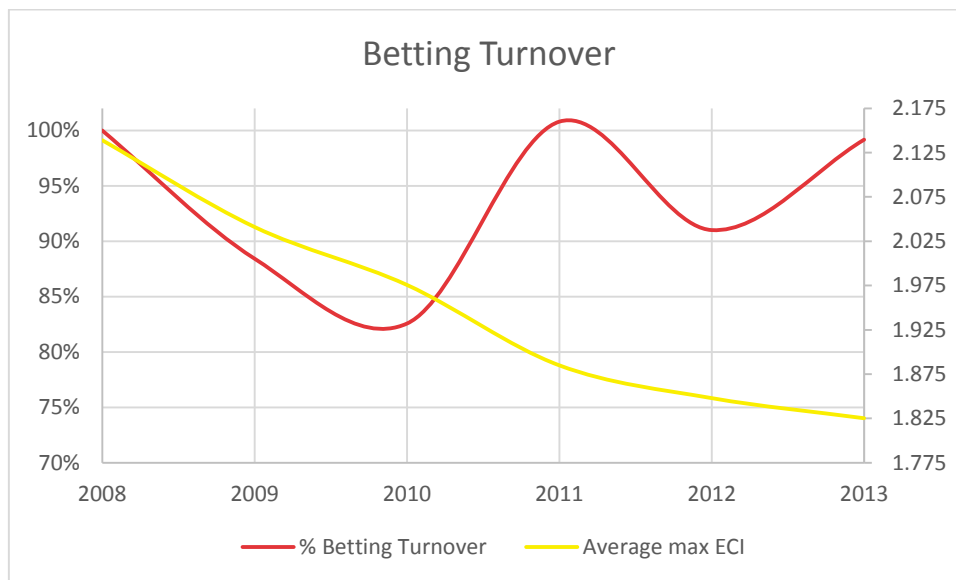
In the European Cup competitions the same difference is found. Norwegian teams that play their home matches on kunstgress perform a lot better at home than the others. For away matches it is the other way around, but the difference is smaller.

UCL / UEL		
	Home	Away
ART	-0.1	-6.0
NAT	-4.7	-4.0

Appendix VI. Betting

Trends and developments

The Norwegian teams have lost ground on the Euro Club Index, the betting turnover however does not seem to follow this trend.

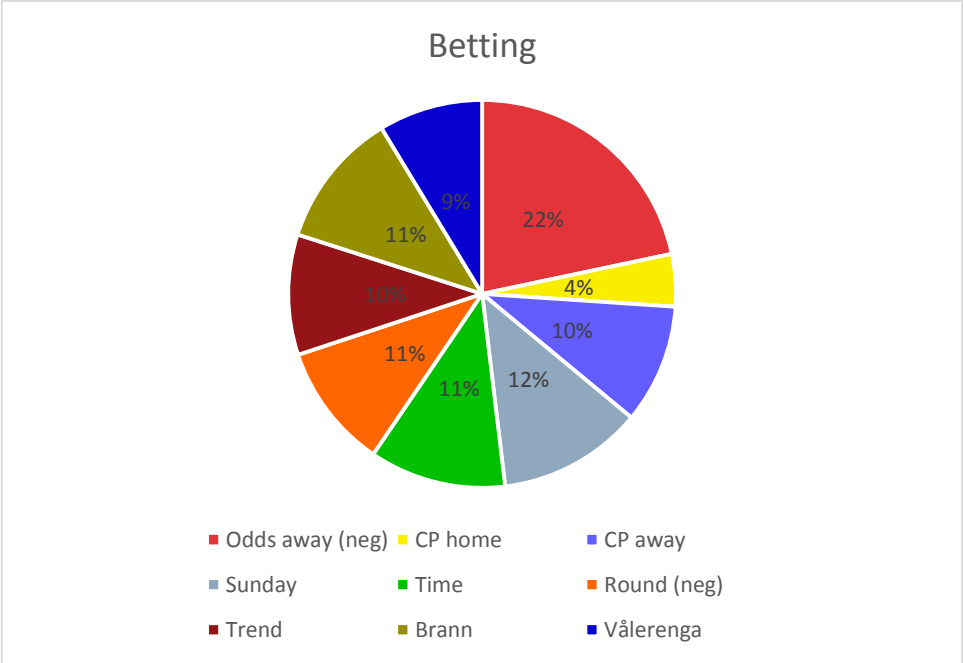


This graph shows the betting turnover compared to base year 2008, and the mean maximum ECI. As we can see, the betting turnover does not follow the decline in ECI. It seems like the betting turnover is not dependent on the maximum ECI, which is also shown by a correlation coefficient of -0.10. However, in June 2010 the Norwegian Government passed a law which prohibits online gambling. Hence, from June 2010 onwards the market share of the Norwegian bookmaker which provided the data has risen drastically, thus explaining the increase in betting turnover. Some critical success factors that further explain betting turnover are explored in the next subsection.

Critical success factors

The data about betting turns out to be difficult to explain. The best model is still not very reliable. So the betting behaviour seems to be rather unpredictable.

However, the best model (correlation $R^2=0.53$) gives the following picture. The round has negative impact, again, just like regarding the number of TV viewers. Sundays are good for betting, and so are later kick-off times. Competition progress has a positive effect, and the odds for the away team has too. Notably, there is significantly more betting on SK Brann and Vålerenga Fotball than on other clubs.



Appendix VII. Alternative formats

In this appendix all alternative formats that have been analysed will be presented including a brief conclusion why the format didn't make it to the final selection of alternatives.

Round Robin formats

Besides the current format two alternative round robin formats are evaluated:

- 10 x 4: ten teams that play each other four times in one season
- 12 x 3: twelve teams that play each other three times in one season

The 10x4 and 12x3 formats are good for the top teams but not to Norwegian football as a whole. If you want to increase the number of matches between top teams, it is better to introduce a second stage that accommodates this requirement.

Belgium type formats

Besides the two Belgium type formats that made it to the final selection, six other Belgium type formats have been evaluated:

- Belgium (16-6-2x4-KO2): 16 teams in total, a top group of 6 and two middle groups of 4 fight for the final UEL ticket
- Belgium (16-6-KO8-KO2): 16 teams in total, a top group of 6 and a knock-out with the middle-8 for the final UEL ticket
- Belgium (16-4-KO8-4): 16 teams in total, in a mix of elements of the two remaining formats
- Belgium (16-4-KO8-4): a variant with a loser PO
- Belgium (14-6-KO4-4): 14 teams in total, with a top group of 6
- Belgium (14-4-KO2): 14 teams in total, with a top group and play-offs against relegation but without the middle group (8 clubs sit still)

The Belgian formats have in general the best evaluation, but the formats above were eliminated. There are different reasons for this. A top group consisting of 6 teams is actually better for competition progress and it gives you more top matches. But it yields 10 more matches for every club, with 36 or 40 in total (depending on whether the first stage has 14 or 16 teams). Quite simply, that's too many.

For the middle group, it turns out that knock-out perform better than groups playing some kind of round-robin. Competition progress is very high, because every match is crucial: you might be eliminated this round.

Portugal type formats

The Portugal type formats divided the league into two groups and two stages. In both stages the two groups play a regular round-robin. After the first stage, the bottom four of the top group relegate to the bottom group, and the top four of the bottom group promote to the top group. This is repeated after the second stage, for the first stage of next season. But after the second-stage there is also promotion from and relegation to 1. Division, and there is a grand final for the championship between the winners of the top groups in stage 1 and stage 2 (but only if these are different teams, of course).

By the way, this kind of format is called 'Portugal' because this format first came up during Hypercube's work for LIGA Portugal in 2013.

The two formats that have been evaluated are:

- Portugal 8+8
- Portugal 10+10

The Portugal formats have a good sporting evaluation. Competition progress is good, just like competitive balance. But Portugal 8+8 has only 28 matches during the two stages and therefore requires extensive play offs in order to ensure that there are enough matches. In Portugal 10+10 each club plays 36 matches plus perhaps some play-offs, which is quite a lot.

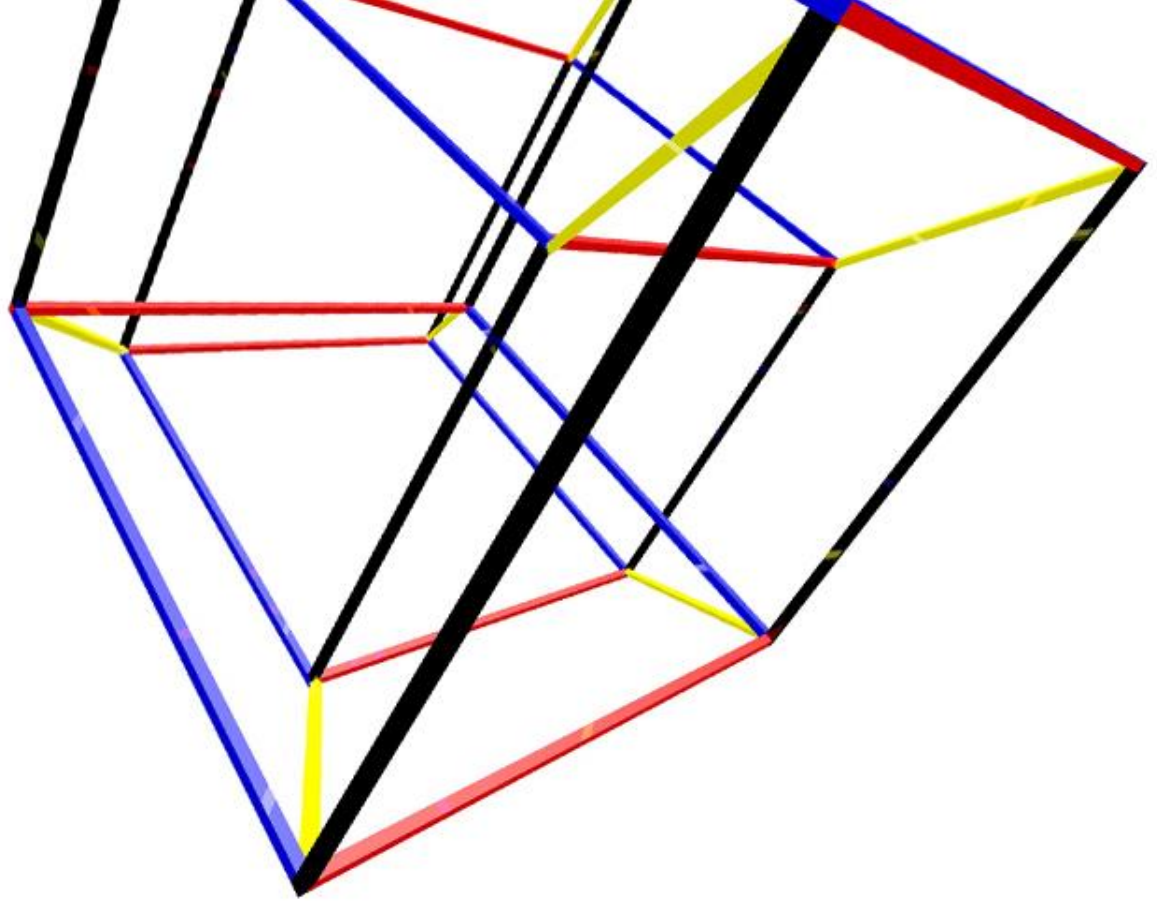
Another disadvantage of this type of formats is that it leads to intricacies in the play-offs which are difficult to explain to the public. For instance, you only have this grand final if there are two distinct winners of the two stages. On fairness, this kind of format therefore also scores quite poorly.

Split model formats

Besides the split model that made it to the final selection three alternative split model formats are evaluated:

- Single (16) + 2x8 round robin + PO
- Double (12) + 2x6 round robin + PO
- Double (12) + 2x6 round robin + PO with carry over

The last model ends with a play-off after the 32 matches for the championship between the numbers 1 and 2 of the top group. The number 3 of the top group and the number 1 of the bottom group played in a play-off for the last European ticket. This is detrimental to the fairness.



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