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INTERSPAC | ANALYSIS TO IDENTIFY THE RELEVANCE OF POPULAR SHAREHOLDING CONTRIBUTION

This document summaries the key highlights of the analysis performed to understand and evaluate the Popular Shareholding contribution on the major Football Clubs.

1. Variables Selection

The analysis considers 1 dependent variable and 6 independent variables that have been normalized with the max scaling according to the 52 Clubs included in the panel

1.1 Dependent Variable

Variables	Description	Notes
Overall Revenues	Revenues from broadcasting, commercial-sponsorship and matchday	*This variable captures each Club total revenues without considering player trading earning and other minor streams of revenues*

The dependent variable has been scaled considering the Club with the maximum Revenues Value (FC Barcelona).

1.2. Independent Variables

Variables	Description	Notes
League impact	Revenues calculated from total League revenues divided by the number of League Clubs	*This captures those revenue drivers that are mostly dependent on the League's values and Country where the Club plays. The variable is correlated to Country GDP that has been consequently not considered in the simulation*
UCL pathway	KPI that represents the positioning in the Champions League tournament	*This variable is meant to capture the add-on revenues of a single season deriving from the UCL access and positioning. Other variables like UEFA Ranking or Domestic League's positioning have not been modeled due to limited significance shown in the model*
Fans	Overall number of worldwide fans per Club	*This variable embeds the Club history and past sport successes and international footprint. It is strictly correlated to Broadcasting revenues and Sponsorship as well, that are the main revenues streams for each Club*
Bonus Foreign Clubs	Dummy variable set at 1 for PSG and Wolfsburg that have some extra revenues mostly related to their ownership	*This is a dummy variable aimed at capturing some Club's peculiarities not explained with other model variables.*
Squad Value	Value of the team for season 2018-19	*This indicator shows the Clubs sport results without considering Champions League impact and also*

		considers value of the Clubs within the European Football Landscape
Popular Shareholding	Dummy variable	This is a dummy variable aimed at capturing the clubs with Popular Shareholding (incl. pillar investor)

In addition to the variables stated above, throughout the analysis other variables have been considered in the simulations that have not been included in the final model because correlated or non-significant to the analysis. The removed variables are

Variables	Description	Notes
GDP per capita	GDP per capita of the single Clubs countries	Low significance and strong dependency to League impact that best fit the external context implication on the Club revenues
Domestic Leagues Points per Game	Number of points per game gained from the Clubs	This variable is related to the Clubs success in the League. It showed low significance
UEFA Ranking	Average of the UEFA points gained in the past 5 years from participating to European competitions	This variable shows the Clubs revenues from European competitions. It was correlated with bot UCL pathway, Fans and Squad value
Average attendance	Average attendance of fans for every league game	This variable captures the revenues generated by the attendance. It shows limited significance probably due to different Club strategies for the matchday revenues management
Stadium property	Dummy variable	Low significance considering that this variable is mostly linked to the Domestic country, so weakly discriminating
Clubs with Top Players	Dummy variable	The variable was aimed to capture some extra revenues driven by the single "star" (e.g Ronaldo effect for Juventus). However, it was strictly linked to the Clubs Squad Value that was considered as preferred.

2. Panel selection

The panel selected for the analysis includes the first 52 Clubs in Europe based on the Brand Finance Report which ranks the Clubs from best to worst based on the Value of the Brand.

The panel is formed by

- **7 La Liga** Clubs (Spain)
- **3 Ligue 1** Clubs (France)
- **17 Premier League** Clubs (England)
- **7 Serie A** Clubs (Italy)
- **13 Bundesliga** Clubs (Germany)

- **1 Scottish Premiership** Club (Scotland)
- **1 Eredivise** Club (Netherlands)
- **1 Prem'er-Liga** Club (Russia)
- **2 Liga Portugal** Clubs (Portugal)

Within the panel we have selected 9 teams with Popular Shareholding model (excluding Barcelona and Real Madrid).

- Bayern Munich
- Borussia Dormund
- FSV Mainz
- SV Werder Bremen
- Hertha BSC Berlin

- Eintracht Frankfurt
- Borussia Monchengladbach
- FC Koln
- Schalke 04

1. Real Madrid		27. Brighton & Albion
2. FC Barcelona		28. Juventus
3. Atletico Madrid		29. FC Internazionale
4. Sevilla		30. AC Milan
5. Villareal		31. AS Roma
6. Valencia		32. SSC Napoli
7. Athletic Bilbao		33. Lazio
8. Paris Saint Germain		34. Atalanta
9. Olympique Lyonnais		35. Bayern Munich
10. Olympique Marseille		36. Borussia Dortmund
11. Manchester United		37. Schalke 04
12. Manchester City		38. RB Leipzig
13. Liverpool		39. Bayer Leverkusen
14. Chelsea		40. Borussia Monchengladbach
15. Arsenal		41. Wolfsburg
16. Tottenham		42. Eintracht Frankfurt
17. Everton		43. Hoffenheim
18. Newcastle		44. SV Werder Bremen
19. West Ham		45. Hertha BSC Berlin
20. Leicester		46. FSV Mainz
21. Crystal Palace		47. FC Koln
22. Burnley		48. Celtic
23. Wolverhampton		49. Ajax
24. Watford		50. Zenit St Petersbourg
25. Bournemouth		51. Benfica
26. Southampton		52. Porto

3. Multivariate Statistics

The model considers all 52 Clubs and 6 independent variables. All variables show an adequate significance and positive contribution to the Revenues, include the "Popular Shareholding" which has a positive link with Revenues (0,14 coefficient)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 50,0%	Upper 50,0%
Intercept	- 0,04	0,02 -	1,80	0,05 -	0,08	0,00 -	0,05 -	0,02
League Impact	0,15	0,03	5,50	0,00	0,10	0,20	0,13	0,17
UCL Pathway	0,22	0,04	6,24	0,00	0,15	0,30	0,20	0,25
Fans	0,65	0,06	11,52	0,00	0,54	0,76	0,61	0,69
Bonus foreign Clubs	0,27	0,06	4,86	0,00	0,16	0,38	0,23	0,31
Squad Value	0,17	0,06	2,99	0,00	0,05	0,28	0,13	0,20
Popular Shareholding	0,14	0,03	4,30	0,00	0,07	0,21	0,12	0,16

By using this model, the estimated impact of Popular Shareholding is 14% of the total revenues of the best performing Club in the panel (110€M).

InterSpac Business Plan considers Popular Shareholding impact on revenues of 70€M at target, once all the initiatives are implemented, applying a prudential criterion (discounted by 35%). This is due to the fact that the analyzed Clubs have a consolidated Popular Shareholding model.

4. Details

The following sections will support the analyis carried out

- o **Focus 1:** Correlation scatterplot between the six variables used in the analysis
- o **Focus 2:** Scatterplot of the analysis showing the variables vs the overall revenues
- o **Focus 3:** Residuals scatterplot of the analysis
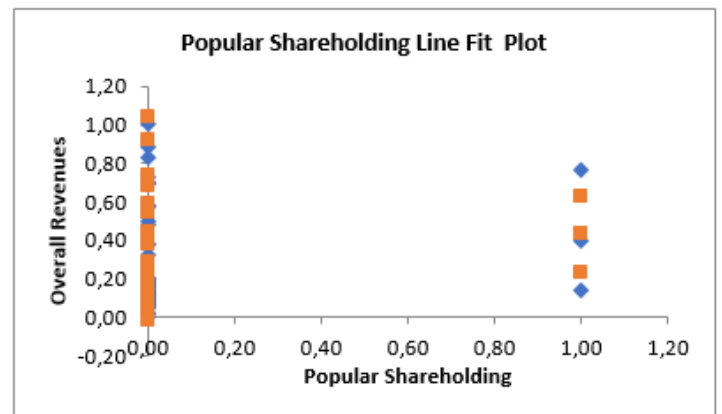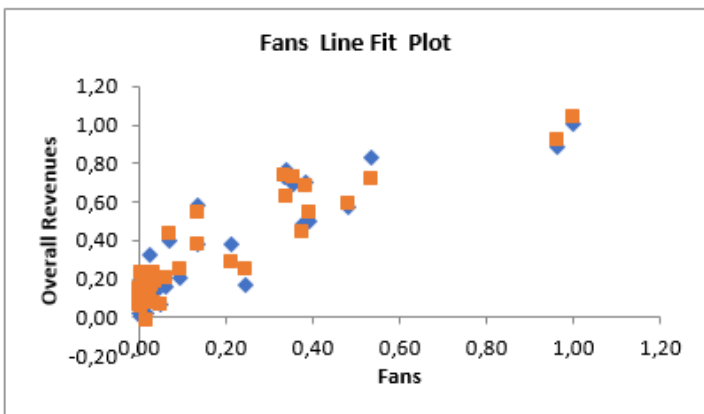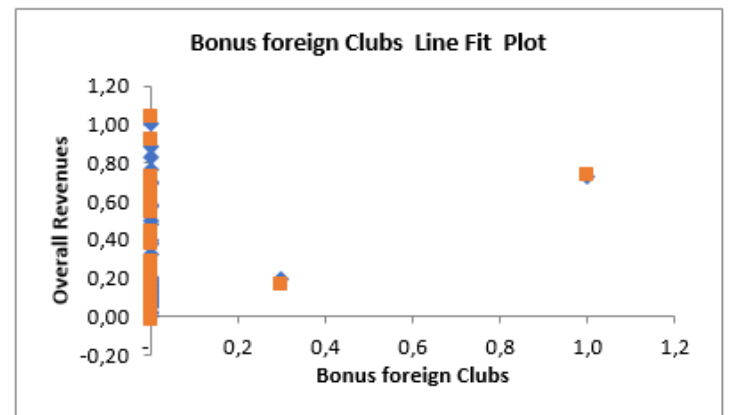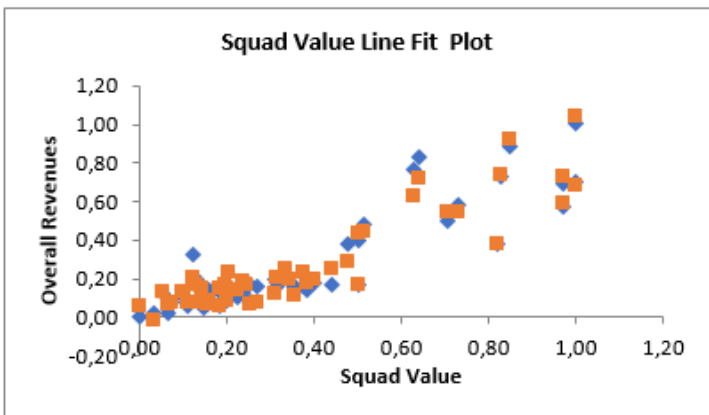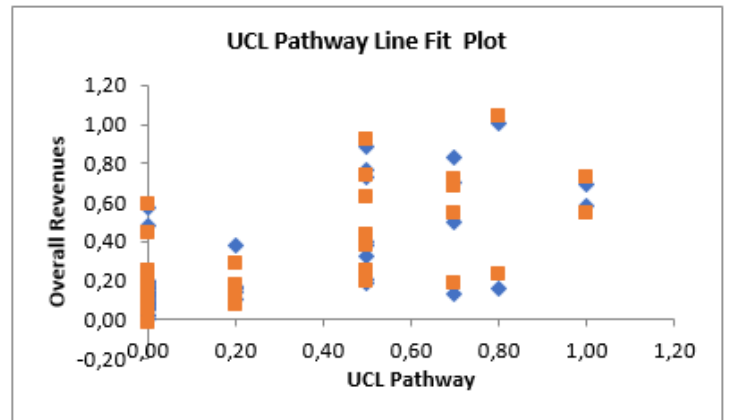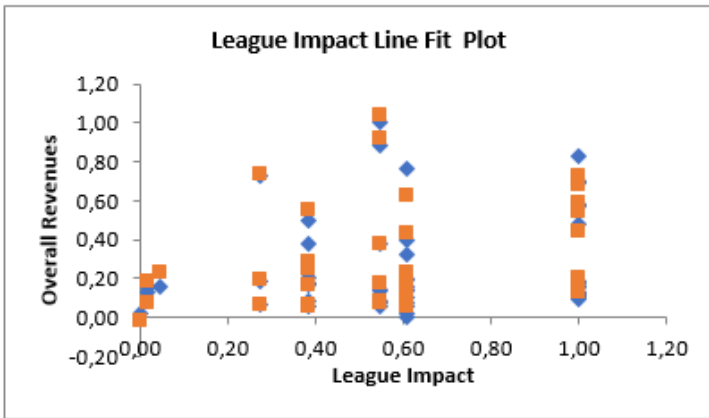- o **Focus 4:** Residuals analysis per Club

Focus 1: Correlation scatterplot between variables

The scatterplots below represent the correlation between the variables used in the analysis. As shown from the graphs, most variable show a positive level of independence between them. However, there is a correlation between fans and squad value which does not impact on the model.
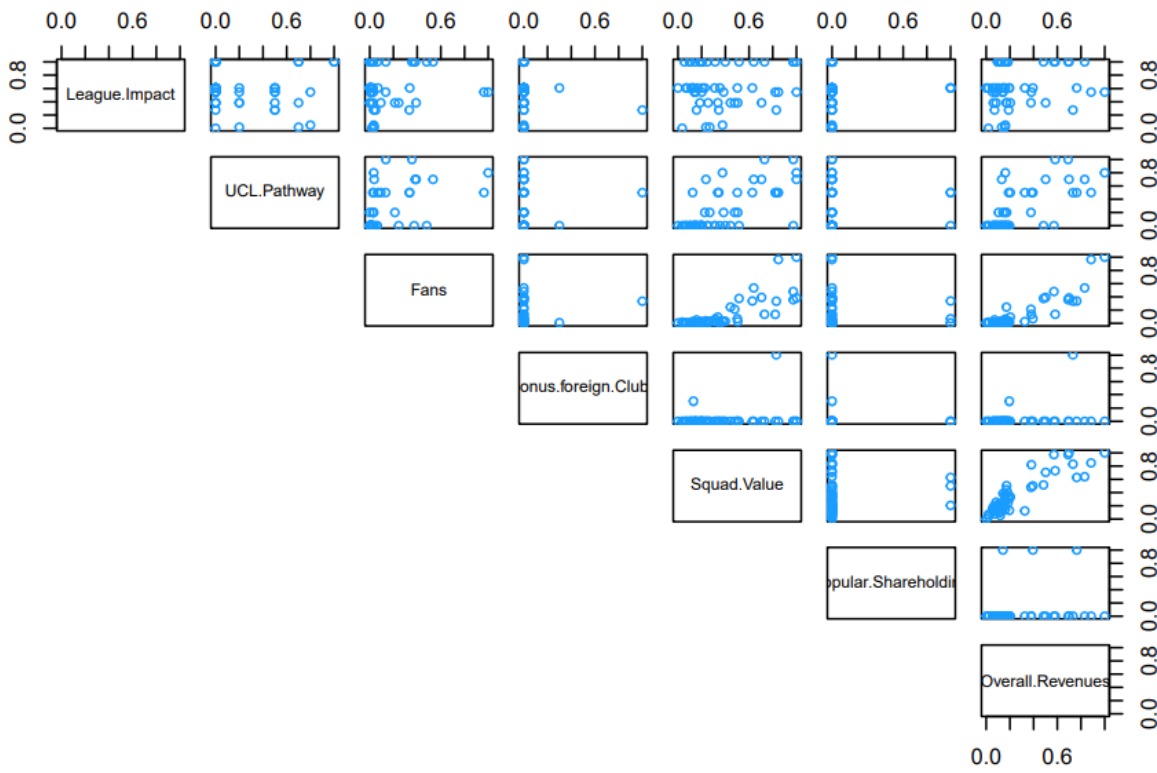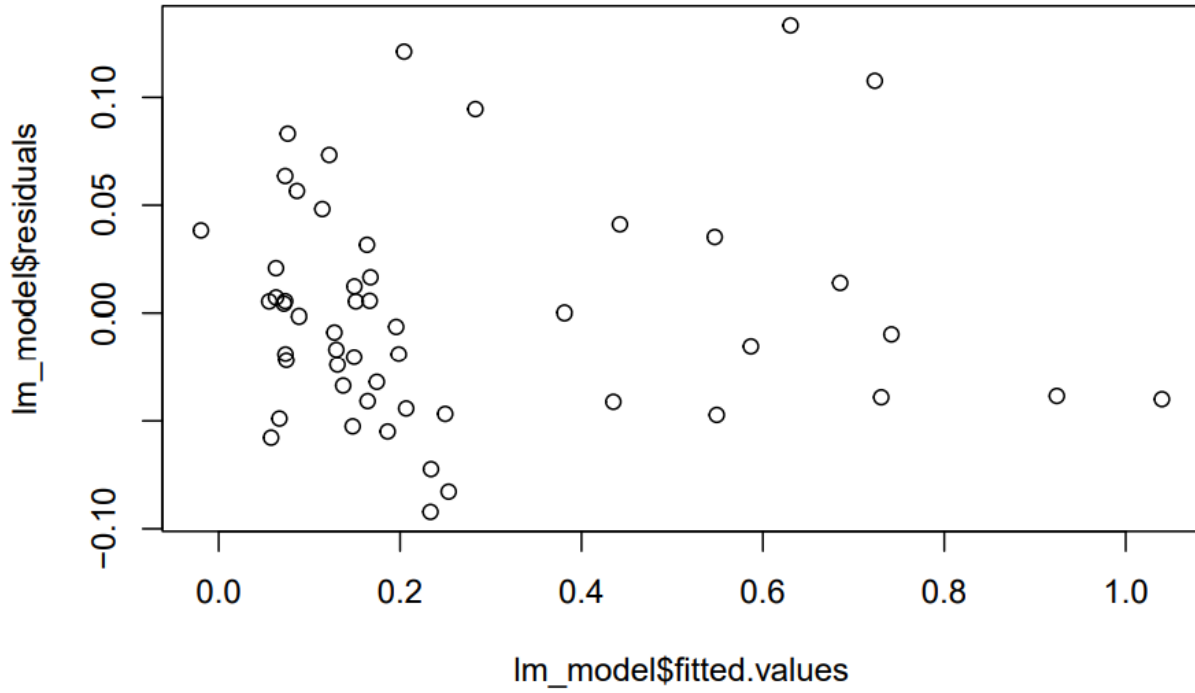
Focus 2: Analysis scatterplot

Focus 3: Residuals scatterplot

The graph below shows a very limited correlation between the residuals of the Clubs used for the analysis.

Focus 4: Residuals analysis per Club

Observation	Predicted Overall Revenues	Residuals
Real Madrid	0,92	- 0,04
Manchester Utd	0,72	0,11
FC Barcelona	1,04	- 0,04
Manchester City	0,69	0,01
Liverpool	0,73	- 0,04
Chelsea	0,59	- 0,02
PSG	0,74	- 0,01
Arsenal	0,44	0,04
Tottenham	0,55	0,04
Juventus FC	0,55	- 0,05
FC Internazionale	0,28	0,09
Atletico Madrid	0,38	0,00
AC Milan	0,25	- 0,08
Everton	0,20	- 0,02
AS Roma	0,25	- 0,05
Newcastle	0,15	0,01
West Ham	0,17	0,02
RB Leipzig	0,11	0,05
Leicester	0,21	- 0,04
Bayer Leverkusen	0,12	0,07
Wolfsburg	0,16	0,03
SSC Napoli	0,17	0,01
Crystal Palace	0,15	- 0,02
Wolverhampton	0,15	0,01
Olympique Lione	0,20	- 0,01
Ajax	0,23	- 0,07
Watford	0,13	- 0,01
Burnely	0,13	- 0,02
Bournemouth	0,15	- 0,05
Siviglia	0,09	- 0,00
Olympique Marseille	0,06	0,01
Celtic	- 0,02	0,04
Hoffenheim	0,14	- 0,03
Southampton	0,16	- 0,04
Benfica	0,08	0,08
Brighton & Albion	0,13	- 0,02
Lazio FC	0,06	0,01
Atalanta	0,06	0,02
Athletic Bilbao	0,07	0,01
Zenit San Pietroburgo	0,07	0,06
Villareal	0,07	- 0,02
Valencia	0,17	- 0,03
Porto	0,19	- 0,05
Mainz	0,07	- 0,05
Herta Berlino	0,07	- 0,02
Werder Brema	0,07	0,00
Eintracht Frankfurt	0,23	- 0,09
Borussia Moench.	0,09	0,06
Colonia	0,06	- 0,06
Borussia Dortmund	0,44	- 0,04
Shalke 04	0,20	0,12
Bayern Munich	0,63	0,13

From the analysis, we have noticed that some Clubs revenues are underestimated compared to the current situation. This happens when some Clubs may have not performed in line with their revenues. In particular,

- **Manchester United:** The revenues are underestimated because of good performance results but lower squad value in season 2018-19. In addition, the analysis does not take into consideration commercial revenues which have big influence on the Club's revenues because of historic commercial partnerships
- **FC Internazionale:** The revenues are underestimated since the analysis does not consider the participation in Europa League but only Champions League and the revenues boost due to Chinese sponsors (una tantum)
- **Bayer Leverkusen:** The revenues are underestimated since the analysis does not consider the participation in Europa League but only Champions League
- **Benfica:** The revenues are underestimated because of the low overall Portuguese League revenues. Unlike, Porto (reached the quarter finals in Champions League) Benfica participated in Europa League
- **Bayern Munich:** The revenues are underestimated because the Club reached a low placement in the Champions League in that season (unusual event) and its revenues are mainly driver by outstanding commercials which are not completely capture with the popular shareholding variable