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Champions League Football: Risk, Resilience and Performance

A snapshot of the top clubs in Champions League football

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Introduction

With 5 billion fans around the globe, the beautiful game captures more hearts and minds than any other sport on the planet. Competitions like the World Cup, Champions League, and European Leagues cause the world to hold its collective breath for 90 minutes at a time, staking success and sorrow on the fate of a round ball. No other institution can claim to captivate over half the world's population. Football is everywhere.

This makes football big business. In 2021, the top 30 clubs in the world received €8.2bn in revenue. The retail market for football equipment is estimated to be €1.7bn today, forecast to grow 18.3% annually to reach €3.4bn by 2027.[1]

While fans watch as their clubs compete for gold and glory, the underlying economics of football clubs are rarely brought to the spotlight beyond transfer fee headlines. Yet like any other industry, bringing finance to the fore helps us to grasp the hidden factors driving the decisions behind our beloved clubs. Behind the punditry and highlight reels are stories of triumph, disaster, resilience, betrayal, and redemption.

We sought to demystify the numbers so fans can bridge the gap between football and finance. To do so, we compiled three years' worth of historical data for top European clubs. Our sample includes the clubs[2] that reached the Round of 16 knockout stages during the 2021/22 UEFA Champions League season.

Using our credit risk assessment platform, we analysed each club's financial and football performance data to answer important questions that will interest fans and financiers alike, such as:

- What is the relationship between financial health and football performance?
- How much financial risk does each club bear?
- How have clubs responded to the coronavirus pandemic?
- Which clubs display financial and footballing resilience?

The report displays the underlying financial risk associated with each club, weaving a narrative that combines the teams' on-pitch performance, off-pitch headlines, and boardroom decisions. To help visualise the data, we have reproduced the exact dashboard from our credit risk platform.

[1] www.alliedmarketresearch.com/football-market-A11328

[2] LOSC Lille has been omitted from the sample due to a lack of publicly available data. As a replacement we have included Barcelona in the analysis based on some interesting insights and its history in the champions league competition

Pandemic woes

Europe's top clubs struggled severely during the pandemic. While turnover merely declined -11% (a relatively small hit compared to other leisure industries), profits were completely decimated; net losses became 40x worse from 2019 to 2021. In aggregate, clubs responded by increasing their debt burdens to preserve cashflow, but the strain on margins meant the top 16 clubs became more than twice as likely to default.

Financial & risk results of the Top 16 clubs

	2019	2020	2021	2021 vs. 2019
SME Z-Score (avg.)	318	305	270	-15%
Probability of Default	5.2%	6.0%	11.4%	119%
Loss Given Default	67.0%	66.7%	63.4%	-5%
Turnover	€7,677m	€7,071m	€6,852m	-11%
Transfers	€1,890m	€2,267m	€1,528m	-19%
Net Income (cumulative)	-€38m	-€606m	-€1,582m	-3,964%
Return on Equity	66.9%	-11.7%	-46.6%	-170%
Return on Assets	1.8%	-0.6%	-10.7%	-694%
Debt to Asset ratio	33.6%	35.4%	36.0%	7%

Fragility, resilience, and antifragility

While the pandemic placed comprehensive pressure on all leagues, not all clubs responded uniformly. Based on financial analysis, clubs fit into three distinct categories based on their response: resilience, fragility, and antifragility.

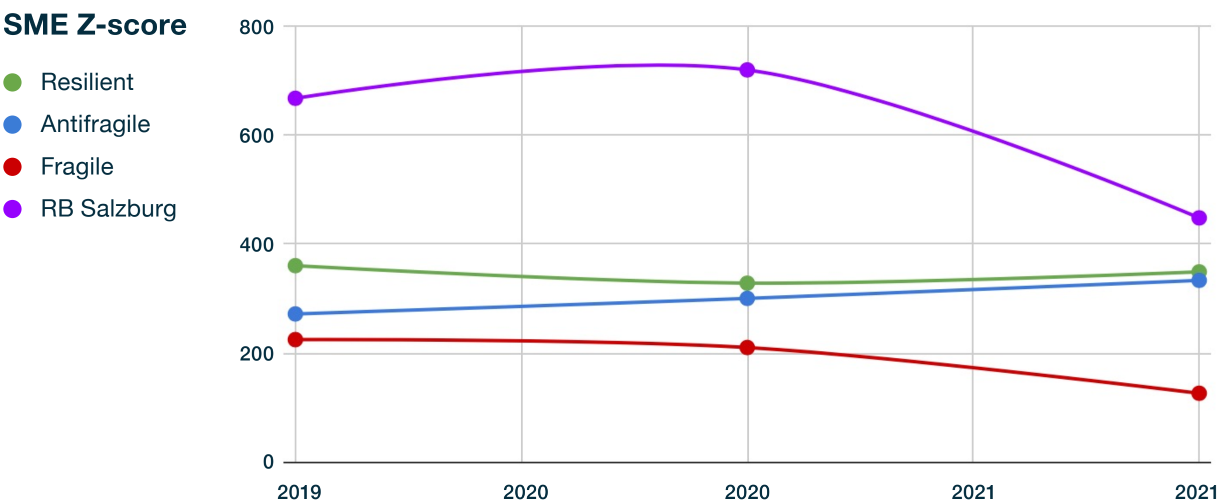
Fragile clubs entered the pandemic with a high risk of default, large net losses, and heavy indebtedness. Pre-pandemic economic precarity provided little room to manoeuvre through the downturn, and fragile clubs ended 2021 on the precipice of ruin. Atletico de Madrid, Barcelona, Villarreal, Benfica, Sporting CP, and Juventus fit in this category. None of the fragiles lifted the European cup during this period.

Resilient clubs bounced back from 2020's lockdown-interrupted season to an improved position in 2021. Bayern Munich, Ajax, Paris Saint-Germain, Manchester United, Manchester City, Chelsea, and Inter Milan demonstrate resilience. In general, these clubs entered the pandemic with high cash reserves, low debt-to-asset ratios, and positive net incomes. The flexibility to increase debt burdens and cash burn allowed these clubs weather the storm. Resilience on the P&L is clearly linked to performance on the pitch; all three Champions League winners were resilient financially.

Antifragile clubs managed to improve their risk profile despite the pandemic. This type of performance is rare, and only Real Madrid and Liverpool demonstrated antifragility. Pressing against macroeconomic headwinds, these clubs reduced their risk exposure by shrinking both probability of default and losses given default. Both clubs achieved this by strengthening their assets and modestly improving their cash flow through increased debts. They both significantly curtailed transfer spending without sacrificing footballing performance. In fact, the only two clubs to demonstrate antifragility over the last several years are also this year's Champions League finalists.

One club stands in a category of its own. **RB Salzburg**, the small but mighty Austrian champions, display the strongest financial performance of the data set by a wide margin, exhibiting roughly twice the average Z-score and standing head and shoulders above the next healthiest club, Bayern Munich. The club boasts superior financial with the lowest probability of default (0.7%), the highest cumulative net income (€66.5m), the lowest debt burden (5% DTA), and the greatest return on equity* (35% average) in the sample. If not for their limited economic power – only Villarreal and Sporting CP have less cumulative turnover – then we would expect to see greater dominance on the pitch.

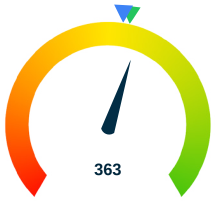
*Excluding Atletico de Madrid, Barcelona, and Sporting CP as outliers, whose ROE ratios are skewed based on accounting differences.



AFC AJAX

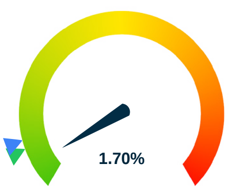
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	385	BBB-	1.4%	0.8%	14.0%	132m	2m	36m
2020	371	BBB-	9.0%	4.1%	43.0%	247m	21m	219m
2021	363	BB+	-3.6%	-1.6%	41.5%	211m	-8m	209m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	34	28	4	119	32	1	Semi	54m
2019/2020	34	18	5	68	23	1	Group	60m
2020/2021	34	28	2	102	23	1	Group	66m



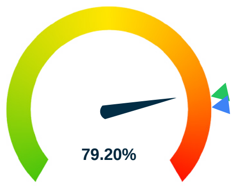
SME Z-Score

Industry Benchmark	283
Region Benchmark	302



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.73%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	78.5%

Bond Rating Equivalent

D | CC | CCC- | CCC | CCC+ | B- | B | BB | BB+ | BBB | BBB+ | A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

A David in Europe and a Goliath domestically, Ajax consistently produces positive results.

A disciplined approach to football and finance yields a searing attacking style and a tidy P&L. The might of their academy is revered, having produced the likes of footballing legends Johann Cruyff, Frank Rijkaard, Dennis Bergkamp, Patrick Kluivert, and Clarence Seedorf. Such success has led to the club's patent of their youth development system, exported as the textbook of total football across the globe.

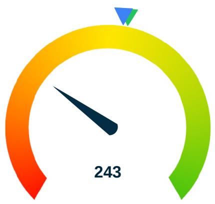
The Ajax economic model relies precisely on the strength of its academy. From 2019 to 2021, 59% of the club's revenue came from transfer sales (+€345m). Their stunning 2019 Champions League run – upsetting both Real Madrid and Juventus before losing to Tottenham in the semi-final – piqued the attention of European heavyweights and prompted the highly profitable sales of young stars like Frenkie de Jong (€86m, Barcelona), Matthijs de Ligt (€85.5m, Juventus), and Hakim Ziyech (€40m, Chelsea). Yet these sales are far from uncommon; each season, at least one player is sold for a minimum fee of €10m.

Betting on the Amsterdammers is perhaps the safest bet in an inherently volatile ecosystem, and their risk ratings consistently beat peer benchmarks. Historically, Ajax ranks as reliably as an investment-grade bond, only just dropping into the BB+ "speculative" zone because of a negative net income in 2021. A consistent track record of positive returns and modest debt burden means the club is likely to revert to profitability in ensuing seasons, with a very low probability of default. They rank third best in risk Z-score, only behind RB Salzburg and Bayern Munich.

AMD ATLETICO DE MADRID

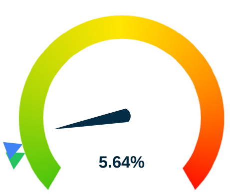
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	311	B+	14.5%	1.4%	47.2%	390m	14m	463m
2020	306	B	-2.2%	-0.2%	49.2%	360m	-2m	539m
2021	243	B-	402.5%	-11.5%	49.5%	363m	-112m	480m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	22	6	55	29	2	Last 16	172m
2019/2020	38	18	4	51	27	3	Quarter	250m
2020/2021	38	26	4	67	25	1	Last 16	93m



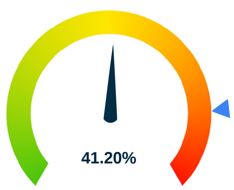
SME Z-Score

Industry Benchmark	283
Region Benchmark	296



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.73%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	81.2%

Bond Rating Equivalent

D | CC | CCC- | CCC | CCC+ | B- | B | BB | BBB- | BBB | BBB+ | A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

Atletico de Madrid is characterised by tenacity, canniness, shrewdness, and industriousness. Out of sheer force of will, the Rojiblancos have carved a viable third path in La Liga between Barcelona's tactical ingenuity and Real Madrid's galactic budget. But this wasn't always the case.

Manager Diego Simeone took the helm in 2011 when the club found itself in utter shambles: Spain was drowning in recession; Atletico ticket sales were down; player wages outpaced club revenue; the club owed €120m in back taxes; and the big Spanish banks were unwilling to lend the club any more. Yet through a series of ownership changes, player rights sales, and transfers, Atletico scraped by.

As the poorer cousin of the Spanish capital, Atletico epitomise a defensive approach to victory. On the field, they bear the closest resemblance to the catenaccio of the Italians — a gritty, disciplined brand of impregnable defending that, borrowing a principle from jujitsu, uses their opponent's energy against them.

The same shrewd approach is evident in Atletico's finances and transfer strategy: behind a perception of high spending lies a reality of high selling. When the club shelled out €126m for Portuguese wunderkind João Felix in 2019 (the third highest transfer fee in history), they sold Antoinne Griezmann for €127m to Barcelona. Purchasing Rodri for €20m contributed to the club's net outlay of €100m on transfers in 2018, yet Rodri's sale the very next year for €60m to Manchester City netted a 200% profit on the player.

Atleti's achilles heel is its debt burden. By the end of the 2019/20 season, the club's total debt outstanding had risen to €999m – second only to their Catalan compatriots, FC Barcelona – and forced the sale of 33% of ownership to private owners, Ares Management, in order to cover their debt payments.

Yet Atletico has compartmentalised the locker room from the board room. Despite the major selloff and financial risk, the club bounced back from a third place finish to win La Liga in the pandemic-stricken season of 2020/21. Should history be a guide, then the club will continue to navigate challenging finances to remain a resilient contender.

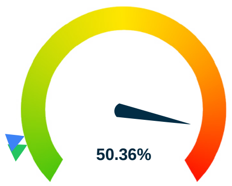
FCB BARCELONA

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	252	B-	3.4%	0.3%	46.4%	852m	4m	629m
2020	140	CCC-	-276.6%	-6.6%	51.6%	729m	-97m	760m
2021	24	CC-	106.8%	-46.7%	71.0%	590m	-481m	731m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	26	3	90	36	1	Semi	145m
2019/2020	38	25	6	86	38	2	Quarter	302m
2020/2021	38	24	7	85	38	3	Last 16	117m

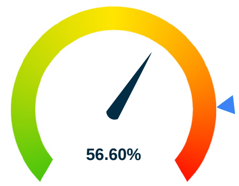
SME Z-Score

Industry Benchmark	283
Region Benchmark	296



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.90%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	81.2%

Bond Rating Equivalent

D	CC-	CCC-	CCC	CCC+	B-	B	BB	BBB-	BBB	BBB+	A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

Catalonian superiority is an uncontested feature of football history. Since the beginning of Barcelona's modern dominance under Frank Rijkaard in 2003, the Blaugranas have won 4 Champions League competitions, 10 domestic league titles, 15 domestic cups, and 3 FIFA Club World Cups. Barcelona's philosophy of tiki-taka — the dazzling style rooted in high-energy, trigonometric, possession-based attacking — revolutionised footballing tactics in a way not seen since Johan Cruyff's total football of the 1980s (also another Barcelona export). The club has boasted arguably the most talented sides in history, including the likes of Leo Messi, Ronaldinho, Andres Iniesta, Xavi, Neymar, Samuel Eto'o, Carlos Puyol, Luis Suarez, and Dani Alves.

Despite windfall cash injections from blockbuster transfers in recent years (Neymar's €220m sale to PSG is still the most expensive transfer in history), replenishing the club's talent in the post-Guardiola era has required some of the greatest indebtedness in the football world. The club's financial straits publicly unfolded this past season when Messi was forced out of the club due to lack of salary space.

Barcelona tangos on the precipice of financial ruin. With a loan book exceeding €1.3bn, they claim the highest debt to asset ratio in our sample (71%). Revenues have declined -30% in the last three seasons, and net income has plummeted -10,532%. As a result, their return on assets is in complete freefall, dropping from 0.3% to -47%. The likelihood of collapse has never been – nor could be – any higher; they have the lowest bond rating equivalent before default and a 50.4% probability of default, driving a Z-score of 24.

For a club of Barça's prestige and budget, anything short of total victory is disappointment.

Their worsening performance domestically and in Europe has caused uneasiness amongst fans, yet these results have not stopped the club from doing what it knows best: spending more. Transfer spending still exceeded €100m in 2021, and the club has confirmed that the €1bn+ renovation of Camp Nou will go ahead in June 2022. The club is vigorously trying to resuscitate any hopes of a European Super League, as they are in desperate need of the broadcast revenue.

The question faced by the Catalan colossus is this: if you can spend your way into ruin, can you spend your way out of it?

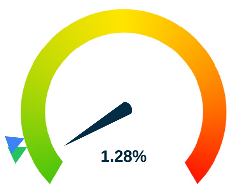
BAY BAYERN MUNICH

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	389	BBB-	10.6%	7.2%	8.2%	750m	53m	60m
2020	369	BBB-	2.0%	1.4%	8.5%	698m	10m	60m
2021	391	BBB-	0.4%	0.3%	9.1%	644m	2m	62m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	34	24	4	88	32	1	Last 16	10m
2019/2020	34	26	4	100	32	1	Winner	141m
2020/2021	34	24	4	99	44	1	Quarter	81m

SME Z-Score

Industry Benchmark	283
Region Benchmark	295



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.93%

Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent

D	CC	CCC-	CCC	CCC+	B-	B	BB	BBB-	BBB	BBB+	A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

Few clubs dominate domestically like Bayern Munich. In the 58 Bundesliga campaigns since the league was unified in 1963, Bayern have won 31 times – 53% of all competitions. They are more than 5 times as successful as the next closest German competitor, VfB Dortmund, who boast 6 titles.

And few clubs dominate Europe like Bayern: the Bavarians are the third most winningest club of all time, having raised the European cup 6 times. Only Real Madrid (13) and AC Milan (7) surpass them.

Yet even fewer clubs display consistently spotless financials, especially in the elite echelons of global football. Bayern is one of the highest grossing, most profitable clubs in the world. Amidst the pandemic season of 2020/21, Bayern still raked in €643m in turnover with a positive net income.

Since 80% of the club is owned by fans in accordance with German law, club leadership must balance the fans' desire for winning with sustainable finances. At the helm as CEO is former German national and Bayern goalkeeper, Oliver Kahn, who is deeply inculcated in the club's philosophy of excellence and economy. Under Kahn, the club refuses to overspend and takes a tight view of cash flow. Most recently, David Alaba was allowed to leave on a free transfer when the club refused his exorbitant salary demands. As a result, Bayern's debt-to-asset ratio and loss given default are second only to RB Salzburg.

Frugality should not be confused with stinginess. In 2019, the club went on a spending spree, and savvy negotiations meant they were able to secure Lucas Hernandez, Benjamin Pavard, Phillippe Coutinho, and Ivan Perisic for €140m – a pittance considering the quality of their talent (note that Coutinho alone was purchased for €135m by Barcelona only two years prior). The investment paid off, with the club proceeding to win the league with 13 points clearance and twice the goal differential of second-place RB Leipzig.

As a result, Bayern's footballing success and aversion to overspending yields risk ratings that exceed all industry benchmarks.

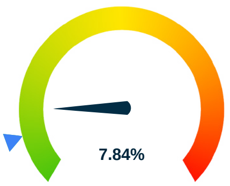
SLB BENFICA

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	222	CCC+	25.3%	5.9%	30.2%	257m	29m	151m
2020	262	B-	25.9%	8.6%	21.0%	285m	42m	102m
2021	210	CCC	-12.1%	-3.3%	17.0%	194m	-17m	89m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	34	28	3	103	31	1	Group	28m
2019/2020	34	24	5	71	26	2	Group	65m
2020/2021	34	23	4	69	27	3	DNQ	110m

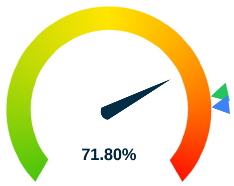
SME Z-Score

Industry Benchmark	283
Region Benchmark	288



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	3.14%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	78.3%

Bond Rating Equivalent

D	CC	CCC-	**CCC**	CCC+	B-	B	BB	BBB-	BBB	BBB+	A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

As Real Madrid is to La Liga, Benfica is to Primeira Liga. The Eagles are domestic royalty, having won 37 domestic championships and 2 European cups. But their last European victory was in 1963 when their Mozambican talisman, Eusebio, led O Glorioso to consecutive Champions League titles.

The club's fall from mid-century prestige has been a graceful descent. The Lisboeta model is similar to that of its Dutch neighbours, Ajax: scout young players cheaply, develop them in the academy, and sell high to Europe's aristocracy. João Felix's €120m sale to Atletico de Madrid in 2019 is the latest data point in a long trend of high profit sales; historically, Felix's cohort of graduates includes Portuguese peers Bernardo Silva, Ederson, Ruben Dias, and João Cancelo, each of whom sold for €40m+.

Benfica's member-owned corporate structure means that leadership is beholden to its fans-cum-shareholders. Profitability prevails, cascading into a sensible transfer policy. Transfer spend from 2019-21 amounted to €203m, but only against €320m in transfer sales, creating a net inflow of +€117m.

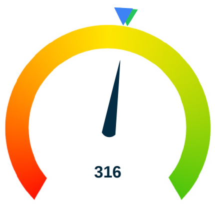
The pandemic impacted Benfica particularly intensely, but not in the same way as other fragile clubs. Failing to qualify for the 2020/21 Champions League season, which could normally drive as much as 10% of turnover, had a direct impact on net income. Without deep pocketed owners, Benfica's precarious financial health often relies on European tournament participation.

Benfica have sacrificed grandeur in the quest for sustainability, since the economic model requires that elite talent get sold young, leaving the squad in a constant state of re-building. Fans and owners alike are content in this role as the factory of football's future, accepting the unlikeliness of raising the European cup again. But that won't stop the Eagles from grooming the next crop of players who do conquer it, albeit in different kits.

CFC CHELSEA

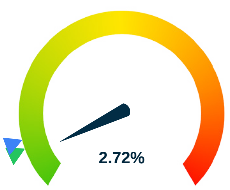
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	324	B+	-20.8%	-11.0%	25.8%	498m	-108m	252m
2020	327	BB-	6.4%	3.7%	21.5%	446m	36m	208m
2021	316	B+	-38.3%	-18.6%	23.6%	522m	-179m	227m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	29	8	63	39	3	Last 16	214m
2019/2020	38	20	12	69	54	4	Last 16	46m
2020/2021	38	19	9	58	36	4	Winner	259m



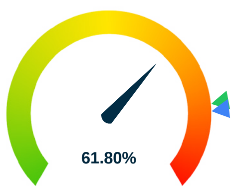
SME Z-Score

Industry Benchmark	283
Region Benchmark	295



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.93%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent

D	CC	CCC-	CCC	CCC+	B-	**B+**	BB	BBB-	BBB	BBB+	A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

An organisation is often the long shadow of a single leader. The tale of modern Chelsea is the story of its owner, Roman Abramovich. The Russian oligarch's wealth, ambition, and impatience have created an often successful, always capricious culture that spares no expense in the pursuit of victory.

The Blues abide by a philosophy of spending. The club's €517m transfer bill from 2019-21 is the highest in England, and across Europe is only exceeded by Juventus, Barcelona, and Real Madrid. In 2021, they spent €259m – the most of any club in the world – to purchase Kai Havertz, Timo Werner, Ben Chilwell, Hakim Ziyech, and Édouard Mendy (receiving veteran Thiago Silva on free transfer). Their spree was €78m more than the next biggest spender, Manchester City.

The philosophy extends to the manager's dugout, where Ambramovich's restless pursuit for silverware reflects a penchant for acquiring the most valuable managerial brand. Since the beginning of the Abramovich era in 2003, Chelsea's list of former managers reads like a who's-who of European tacticians: Mourinho, Grant, Scolari, Hiddink, Ancelotti, Villas-Boas, Di Matteo, Benitez, Holland, Conte, Sarri, Lampard, and Tuchel. Each of these managers has tried to implement a distinctive playing philosophy that makes it difficult to describe a coherent Chelsea "style"; compare Mourinho's intransigent defensiveness to Benitez's expansive fluidity to Sarri-ball. Then again, it's not easy to establish continuity when average managerial tenure is 1.1 seasons; Mourinho is the only manager to last more than two consecutive seasons.

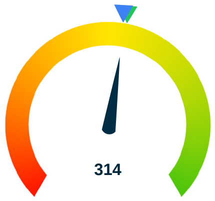
Chelsea has remained healthy because of Ambramovich's personal wealth. Few clubs have the economics to sustain multiple seasons of net losses beyond €100m, and only one with only private owners could stomach the exorbitant spending and negative returns.

Geopolitics have now collided with Chelsea's blue-blooded mercenary strategy to wrest ownership from Ambramovich, so we will watch with bated breath to see how the club will adapt without the Russian's deep pockets.

INT INTER MILAN

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	322	B+	1062.3%	-5.8%	44.2%	395m	-48m	367m
2020	297	B	277.1%	-11.2%	42.9%	372m	-102m	392m
2021	314	B+	-459.4%	-25.8%	48.1%	363m	-246m	459m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	20	9	57	33	4	Group	100m
2019/2020	38	24	4	81	36	2	Group	194m
2020/2021	38	28	3	89	35	1	Group	131m



SME Z-Score

Industry Benchmark	283
Region Benchmark	294

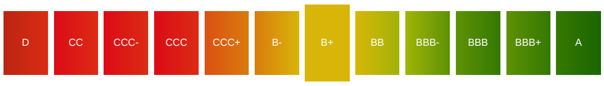
Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.96%

Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	82.5%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

In the three-horse race of Serie A, Inter jockey with Milanese archrivals AC Milan to play second fiddle to Juventus. Inter have a razor-thin lead over AC, with 19 Serie A titles to the latter's 18.

Competition for prestige has dragged Inter into an expensive arms race for leverage against AC and Juve, both on the team sheet and the balance sheet. Inter's buyout in 2016 by Suning Holdings raised the stakes and purported to mark a new era of ownership.

Suning, a Chinese electronics conglomerate who count Alibaba as a major investor, hoped to mimic the Manchester City model created by City Football Group, the scion of the Emirati wealth fund.

The buyout has resulted in impactful changes. Purchasing Romelu Lukaku and Christian Eriksen in 2019 provided the lift that the club hoped, propelling the Nerazzurri to Serie A victory.

Yet spending drove the club's cumulative 2019-21 net loss of -€396m. It may have allowed Inter to keep up with the Joneses on the pitch in Italy, but the underlying financial philosophy has led to Suning's investment unravelling. Barcelona is the only club with a greater cumulative net loss due to their 2021 implosion.

Suning's cash has propped up Inter's risk metrics, but in 2021 (after our data set ends), cash-strapped Suning began shopping their Inter stake after running into cashflow trouble. Recent reports claim that they are inches away from an €800m takeover by the Saudi Public Investment fund, one of the rare buyers who are even richer and less price/profit sensitive. For Inter the fun continues, so long as a powerful investor can afford the bill.

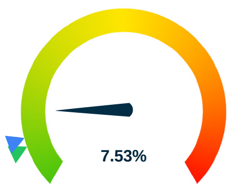
JUV JUVENTUS

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	355	BB	-127.7%	-4.2%	53.8%	621m	-40m	507m
2020	352	BB	-37.5%	-7.6%	34.0%	573m	-90m	400m
2021	214	CCC+	-738.0%	-23.1%	43.9%	481m	-210m	398m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	28	4	70	30	1	Quarter	270m
2019/2020	38	26	7	76	43	1	Last 16	233m
2020/2021	38	23	6	77	38	4	Last 16	163m

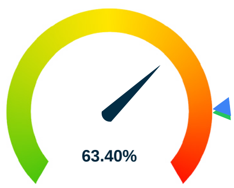
SME Z-Score

Industry Benchmark	283
Region Benchmark	294



Probability of Default

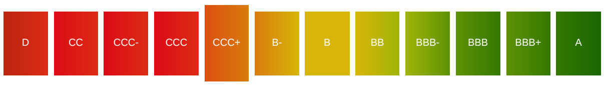
Industry Benchmark	3.31%
Region Benchmark	2.96%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	82.5%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

Juventus are modern kings after the fashion of their majority owners, the Agnelli family: dynastic, glamorous, and insatiable. The club has won the most (34) Serie A championships – 36% of competitions since the league's founding – just as the Agnelli family's fortune amounts to nearly 1% of the country's GDP.

For Juventus, Serie A victory is table stakes. Their 2020/21 drop to fourth place proved to be a scandalous anomaly. They have won the Champions League twice, and the cup is both their raison d'etre and their bete noire; a relative lack of Champions League silverware compared to AC Milan (7 titles) and Inter Milan (3 titles) within Italy is the onerous chip on their shoulders. With a budget that compares to titans like Real Madrid and Barcelona, European defeat brings crushing disappointment and crushing returns.

The Old Maid knows that victory has expensive taste and a voracious appetite. The club ranks the highest in transfer spending (€665m), securing blockbuster purchases of Cristiano Ronaldo, Douglas Costa, Leonardo Bonucci, Matthijs De Ligt, and Arthur in the past three years. While these purchases have propped up runaway domestic success, they have not delivered coveted Champions League victory.

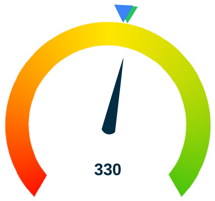
Juventus also claim the worst return on equity in our dataset (-301% avg). Their economic picture becomes dire when coupled with their large debt burden. As one of the rare football clubs that trades as a public company, such financial performance can only be sustained by the Agnelli's majority ownership. It is not a surprise that Juventus has spearheaded the formation of a European Super League (alongside Real Madrid and Barcelona), as raking in more broadcast revenue is the only clear path to sustainability.

The Bianconeri are standing on a sinking ship. It is a 1,000-metre, diamond-encrusted, leather-upholstered luxury yacht, but it is a sinking yacht nonetheless. Being broke has never looked so good.

LIV LIVERPOOL

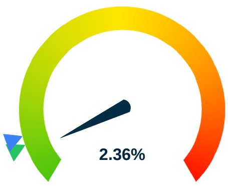
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	279	B	13.5%	4.5%	34.0%	601m	38m	285m
2020	304	B	-18.9%	-5.3%	45.8%	542m	-44m	379m
2021	330	BB-	-4.8%	-1.4%	37.4%	564m	-11m	300m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	30	1	89	22	2	Winner	187m
2019/2020	38	32	3	85	33	1	Last 16	11m
2020/2021	38	20	9	68	42	3	Quarter	86m



SME Z-Score

Industry Benchmark	283
Region Benchmark	295



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.93%

Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent

D | CC | CCC- | CCC | CCC+ | B- | B | **BB-** | BBB- | BBB | BBB+ | A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

Liverpool's brand has always been synonymous with history. And when Fenway Sports Group purchased Liverpool in 2010, the club indeed had history, but little future. New ownership began a transformation to a business-first, culture-forward philosophy that has brought the club success on and off the pitch.

Since his appointment in 2015, Jurgen Klopp imported an indefatigable energy and competitive drive that coalesce in his tactical philosophy of the gegenpress: a German term that essentially translates to "the best defence is a good offense". All players, from Mo Salah to Trent Alexander-Arnold, embody this feisty, gruelling philosophy that places the team above the individual.

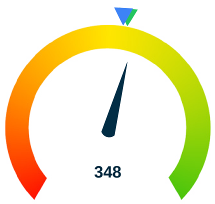
The club's accounts reflect a financial gegenpress, a series of investments that are as intense as they are calculated. While their 2019 transfer bill of €187m put them in company with serial overspenders AC Milan, Juventus, and Chelsea, the team achieved Champions League victory and second place in the Premier League. Even while taking moderate losses in the 2020 pandemic season, the club has an average return on equity of -3% in the past three years (only beaten in England by Manchester United). Their debt burden of 39% is average for the industry and reflects a willingness to spend to grow, while their ability to reduce their debt to asset ratio following the pandemic displays fiscal discipline. All other risk metrics beat industry standard. The FSG approach is working.

Whether you're a fan or a financier, the Reds are difficult to critique (unless you're an Evertonian). What makes Liverpool impressive is an earnestness that drives their playing style, financial performance, and club culture. Liverpool doesn't just mean "history" anymore; it means charisma, discipline, integrity, flair, commitment, unity, and antifragility.

MNC MANCHESTER CITY

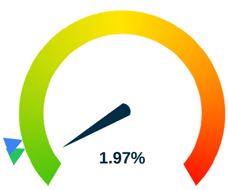
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	342	BB	-10.7%	-6.3%	12.2%	759m	-93m	182m
2020	328	BB-	-35.0%	-13.4%	33.0%	656m	-225m	555m
2021	348	BB	-5.8%	-3.4%	10.6%	833m	-61m	196m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	32	4	95	23	1	Quarter	81m
2019/2020	38	26	9	102	35	2	Quarter	161m
2020/2021	38	27	6	83	32	1	Runner Up	180m



SME Z-Score

Industry Benchmark	283
Region Benchmark	295



Probability of Default

Industry Benchmark	3.31%
Region Benchmark	2.93%

Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent

D | CC | CCC- | CCC | CCC+ | B- | B | **BB** | BBB- | BBB | BBB+ | A

Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

Manchester City's owners, City Football Group, are blazing a new path. The Abu Dhabi-based private equity fund has purchased clubs in the United States, Uruguay, Australia, Spain, China, Japan, and England to build a global network of football recruitment and development. Their end goal is to establish new standards of on-field success by rewriting the rules of football ownership.

There are currently two unwritten rules in football. The first rule applies to domestic leagues: money can buy wins. High transfer fees generally correlate with better talent, and the length of the domestic seasons means higher talent teams generally win. City abide by this rule, having spent €422m in transfers across three seasons. As a result of such heavy investment, it is the winningest club in the most competitive league in the world, having claimed two domestic titles and a second place finish in three seasons.

The second rule applies to European football: victory requires experience. City have proven this rule so far in their elusive chase for the European cup, and it is this rule that they hope to disprove.

Re-writing rules is an expensive pursuit. The Sky Blues have accumulated -€380m in losses over three seasons, the third largest loss in our dataset, despite raking in more turnover than any other club in the world (€2.2bn). Purchasing world-class players approaching their peak, like Riyad Mahrez or Ruben Dias, is both expensive and loss-making. They have spent -€216m more than they have received in the transfer market, accounting for 57% of net losses.

Despite negative returns, Manchester City is a reliable financial bet. City Football Group have proven their ability to sustain the losses with equity, allowing the club to maintain a low debt-to-asset ratio and probability of default. As a result, City has a near investment-grade bond rating. The bill may be high, but the Cityzens always pay.

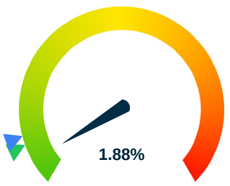
MNU MANCHESTER UNITED

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	368	BBB-	1.9%	0.8%	33.1%	710m	18m	728m
2020	355	BB	-3.5%	-1.5%	41.6%	581m	-31m	845m
2021	353	BB	-4.4%	-1.9%	36.0%	589m	-39m	751m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	19	10	65	54	6	Quarter	85m
2019/2020	38	18	8	66	36	3	DNQ	237m
2020/2021	38	21	6	73	44	2	Group	88m

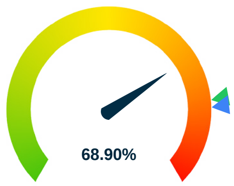
SME Z-Score

Industry Benchmark	283
Region Benchmark	295



Probability of Default

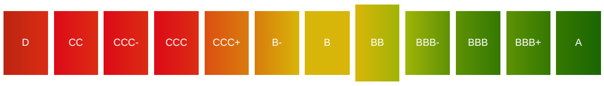
Industry Benchmark	3.31%
Region Benchmark	2.93%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

Manchester United display strength in a way that few brands can. Their reliability as a global mainstay is unassailable, save the occasional blip in European performance.

With 13 Premier League titles, they are England's winningest club. They boast the greatest international following of English clubs, and they are consistently amongst the top five revenue generating clubs in Europe. All of this has been accomplished while navigating the challenges of the post Alex Ferguson era.

A look at the 2019/20 season tells a story of resilience that encapsulates Manchester United's form. United kept losses to $30m during the 2019/20 season despite spending €237m on transfers, reinforcing the squad with Bruno Fernandes, Harry Maguire, and Aaron Wan-Bissaka. In a year in which football struggled as the world shuttered, the Red Devils rebounded by returning to Champions League with a third place finish and modest increases in their Debt to Asset ratio.

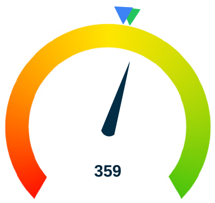
Yet, as many United supporters can attest, historical greatness begets a dynamic duo of impatience and high expectations. The Glazer family, majority owners since 2005, know this very well; missing out on Champions League play in 2019/20 and disappointing in the Champions League in the following season have led to them being rated the worst owners in the Premier League, according to fans. The Glazer's emphasis on balancing the books has grated against fan desires, creating an antagonistic conflict of profit versus results.

Yet the Glazers remain unmoved, and United's risk ratings reflect high control over finances and football that sit squarely in safe territory. On the pitch, Ralf Rangnick's side continue their rebound from pandemic doldrums. In all cases, United abides.

PSG PARIS SAINT-GERMAIN

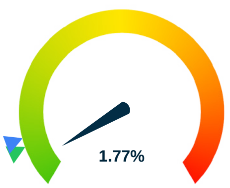
Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	393	BBB-	-9.4%	-5.2%	52.9%	638m	26m	511m
2020	252	B-	-54.0%	-16.1%	25.3%	519m	-175m	274m
2021	359	BB+	-56.3%	-18.3%	21.9%	545m	-178m	213m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	29	5	105	35	1	Last 16	233m
2019/2020	27	22	3	75	24	1	Runner Up	96m
2020/2021	38	26	8	86	28	2	Semi	65m



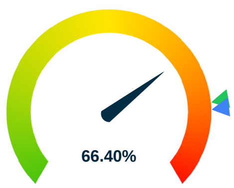
SME Z-Score

Industry Benchmark	283
Region Benchmark	302



Probability of Default

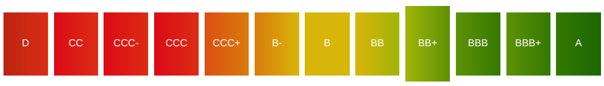
Industry Benchmark	3.31%
Region Benchmark	2.73%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.6%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	MEDIUM

The story of modern PSG is a far cry from its founding in 1970, when the club was created and owned by 20,000 socios. In 2011, the Parisians were bought by the sports investment wing of the Qatari sovereign wealth fund, making PSG both one of the richest clubs in the world and the only club to be fully state-owned.

With President Nasser Al Khelaifi at the helm, PSG has spent its way to the top of European competition. The growth-by-acquisition strategy has involved purchases and partnerships with some of the glossiest brands in sport.

In 2017, the club made a statement of intent when triggering Neymar's release clause from Barcelona (€222m) and buying Mbappe from Monaco (€180m) – the two most expensive purchases in football history.

Les Parisiens run rampant in Ligue 1, having won 8 of the last 10 domestic competitions; it is all but guaranteed that they will soon overtake Marseille and St. Etienne as France's most decorated club. But at the European level, PSG frequently find themselves on the spectacularly unfortunate side of history. Whether in 2019's 3-1 defeat by Manchester United at home, 2020's cup final loss to Bayern Munich, or 2021's semi-final thrashing by Manchester City, the Rouge-et-Blues know disappointment like few others. No disappointment could compare to 2017's exit, when Barcelona rallied to a 6-1 victory in Paris in one of the greatest comebacks in sporting history.

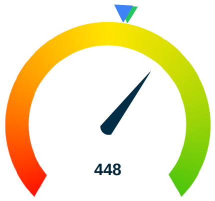
PSG's finances are sustained by the wealth of its patrons. Fifa Fair Play investigations have forced Parisian transfer spending down year on year, though this has not had much impact on their 8-figure net losses. Despite this, the club has managed its debt burden downward and holds only moderate risk, as the cash reserves of their patrons protect against short-term losses.

The Qatari covenant of European glory has not been consummated in their decade of ownership, but with recent reinforcements like Lionel Messi, the Parisians continue to dream.

RBS RB SALZBURG

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	667	A-	53.4%	33.9%	10.1%	119m	23m	7m
2020	719	A-	47.9%	30.9%	2.5%	183m	40m	3m
2021	448	BBB	4.8%	3.5%	2.2%	112m	4m	3m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	32	25	2	79	27	1	DNQ	24m
2019/2020	32	22	2	110	34	1	Group	34m
2020/2021	32	25	5	94	33	1	Group	14m

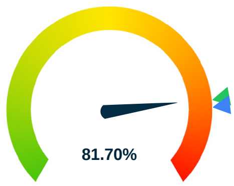


SME Z-Score

Industry Benchmark	283
Region Benchmark	295

Probability of Default

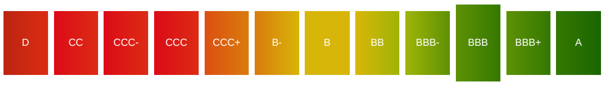
Industry Benchmark	3.31%
Region Benchmark	2.93%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	79.3%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	LOW

In 2005, the Austrian beverage magnate Dietrich Mateschlitz purchased a struggling SV Austria Salzburg on the verge of bankruptcy. Taking guidance from second-tier clubs elsewhere in Europe, Red Bull focused on developing a global pipeline of youth talent that would feed the top tier's insatiable demand for fresh blood. Following Salzburg, Red Bull then purchased FC Liefering in Austria's second division, Leipzig in the German Bundesliga, and the NY/NJ MetroStars in America's MLS while creating Red Bull Brasil in São Paulo. The conglomerate became each other's scouting network and transfer pathway.

The club's development model drives strong economics. From 2019 to 2021, Salzbur's €65m transfer spend compares with €214m in transfer sales for a net balance of +€149m. Norwegian megastar Erling Haaland and Senegalese sensation Sadio Mane are the academy's highest-profile graduates. The Nordic striker is now rumoured to be seeking a €155m transfer fee, which would make him the third most expensive transfer of all time.

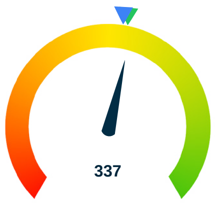
Much of this value is returned to management: Salzburg claims the highest average return on equity in our sample (35%) and is one of only four clubs in our sample to turn a profit in each of the three seasons from 2019-21.

The Red Bull network is a hierarchy of sorts, and Salzburg is the jewel in the crown, having won the last 9 consecutive domestic leagues and de-throning rivals Rapid Wien in the quest for Austrian dominance. While a short-term hit to revenue in 2021 knocked their economics off kilter, a long-term investment mentality is likely to see the Bulls return to strength.

RMD REAL MADRID

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	265	B-	7.2%	3.4%	10.9%	756m	38m	124m
2020	297	B	0.1%	0.0%	28.9%	714m	313k	414m
2021	337	BB-	0.2%	0.1%	36.5%	650m	874k	578m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	21	12	63	46	3	Last 16	167m
2019/2020	38	26	3	70	25	1	Last 16	360m
2020/2021	38	25	4	67	28	2	Semi	0

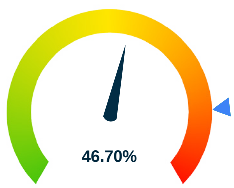


SME Z-Score

Industry Benchmark	283
Region Benchmark	296

Probability of Default

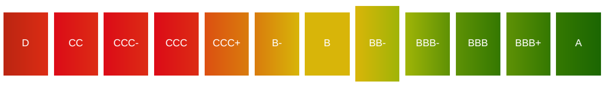
Industry Benchmark	3.31%
Region Benchmark	2.90%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	81.2%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

There is no club like Real Madrid.

No club has won anything as much as Real Madrid has won everything. Domestically, their 35 La Liga championships compare to second-place Barcelona's 26 titles. Continentally, their 13 Champions League victories equal the second (Inter Milan, 7 titles) and third (Bayern Munich, 6) clubs combined.

The Merengues claim the largest fan base in the world, a consumer base that forms the driving force behind their consistent rankings amongst the top 3 highest grossing clubs in the world.

What distinguishes Real, beyond elite success, is their ownership structure: the club is predominantly owned by 90,000-odd "socios", or fan-members. The president, Florentino Perez, presides over the non-profit organisation as CEO of the board.

The traditional collective ownership model is far from a quaint relic, producing robust results and a healthy balance sheet. Fans hold voting power over club leadership, which forces management to be accountable to the socios competing demands for financial returns and on-field dominance. In some years, like 2019/20, this means responding to a disappointing third place La Liga finish by spending €359m in the transfer market, more than any other club in a single year. In other years, like 2020/21, this means spending nothing to consolidate the squad and balance the books.

Distributed ownership has driven Real Madrid to run a tight ship with a manageable debt burden, a deep war chest, and a governance structure that reduces the risk of bankruptcy. Their credit metrics beat industry benchmarks on every measure and narrowly miss out on investment-grade bond rating.

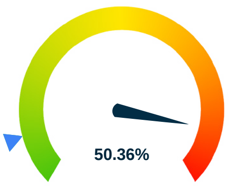
SCP SPORTING CP

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	105	CC+	33.4%	-2.6%	65.4%	76m	-8m	197m
2020	109	CC+	-126.5%	4.3%	65.7%	69m	13m	190m
2021	24	CC-	79.6%	-12.2%	71.2%	64m	-33m	192m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	34	23	6	72	33	3	DNQ	34m
2019/2020	34	18	10	49	34	4	DNQ	32m
2020/2021	34	26	1	65	20	1	DNQ	37m

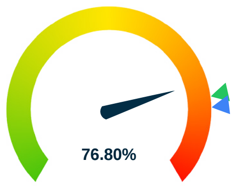
SME Z-Score

Industry Benchmark	283
Region Benchmark	288



Probability of Default

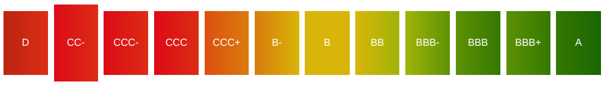
Industry Benchmark	3.31%
Region Benchmark	3.14%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	78.3%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

Similar to their Lisboan archrivals, Benfica, Sporting's model relies on the strength of scouting and academy development. The club's illustrious alumni comprise a sizeable contingent of Portugal's past and present national team players. No conversation on Sporting is complete without mentioning academy graduates and Portuguese titans Cristiano Ronaldo and Luis Figo.

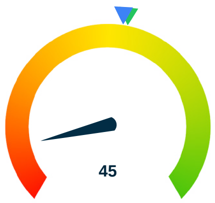
The club is currently recovering from one of the world's worst managerial scandals. In 2018, President Bruno de Carvalho was voted out by the club's socios after being accused of 44 cases of terrorism, kidnapping, and armed assault as the mastermind of an attack on Sporting's own players inside of club facilities following a Europa League loss. Nine players resigned after the attack, including four on Portugal's national team. PwC then warned Sporting that the exodus put the club in serious danger of bankruptcy.

The Lions are still feeling the aftershocks of the ousting, and their overhaul is far from complete. Returning to their buy-low, sell-high transfer strategy is helping to rescue the club's finances, with transfer sales exceeding spend by +€149m in the three-year period. The club's domestic victory in 2020/21 vindicated the fans' decision to oust de Carvalho, but it has done little to reduce its exorbitantly high probability of default.

VIL VILLARREAL

Yr	Z-Score	BRE	ROE	ROA	DTA	T/O (€)	NI (€)	TD (€)
2019	105	CC+	12.3%	5.8%	48.5%	122m	12m	99m
2020	94	CC+	-1.0%	-0.5%	51.7%	98m	-994k	112m
2021	45	CC-	-17.6%	-7.2%	56.1%	128m	-14m	111m

SZN	P	W	L	GS	GC	D Pos	CL Pos	Tr (€)
2018/2019	38	10	14	49	52	14	DNQ	95m
2019/2020	38	18	14	63	49	5	DNQ	44m
2020/2021	38	15	10	60	44	7	DNQ	38m

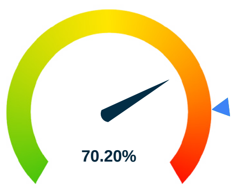


SME Z-Score

Industry Benchmark	283
Region Benchmark	296

Probability of Default

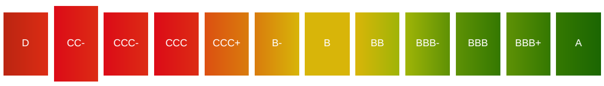
Industry Benchmark	3.31%
Region Benchmark	2.90%



Loss Given Default

Industry Benchmark	81.9%
Region Benchmark	81.2%

Bond Rating Equivalent



Transition Risk	LOW
Flooding Risk	LOW
Heatwave Risk	HIGH

Fernando Roig is on a mission to change the narrative in La Liga.

When the Valencian ceramics billionaire purchased Villarreal in 1997 for €432,000, his goal was to transform the Segunda Division side into a modern powerhouse that could compete in La Liga and Europe. His ambitions were summarily mocked and dismissed in local media. The following season, Villarreal were promoted to La Liga.

In the intervening decades, Roig has made substantial progress toward his vision. Roig has built a scouting network across Spain and Latin America to feed the best young talent into the club's cantera (development academy). Many academy players stay to compete for the top team, while others are sold for high profits to reinvest in the academy. Rodri is now a household name and critical part of Manchester City's spine. El Madrigal, the home stadium that often saw 2,500 fans in attendance in 1997, now regularly fills its 23,000 seats.

While Roig has transformed the club since his purchase, success has come at a steep cost. The club has experienced losses in their last two seasons, and Roig has continued to expand their debt burden in order to sustain their footballing results. Managing transfer spend down from €95m to €38m has helped to stem the bleeding, but the club still has a net transfer spend of -€31m over three years. The mounting losses since put Villarreal's risk Z-score third worst in our sample, only surpassed by their faltering Catalan compatriots, Barcelona, and Sporting CP.

Roig's resolve to stomach losses have been compensated on the pitch. Smart managerial hires, like Manuel Pellegrini and Unai Emery, have created a recognisable counter-attacking style that is distinct source of pride for Villarreal. Most importantly, the Yellow's 2021 Europa League victory over Manchester United in a penalty shootout dramatically vindicated Roig's European ambitions.

Glossary

Financial terms		
ROE	Return on equity	Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. ROE is considered a measure of how effectively management is using a company's assets to create profits.
ROA	Return on assets	Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient a company's management is at using its assets to generate earnings.
DTA	Debt to assets ratio (%)	The total-debt-to-total-assets ratio is a leverage ratio that shows the degree to which a company has used debt to finance its assets. If a company has a total-debt-to-total-assets ratio of 0.4, 40% of its assets are financed by creditors, and 60% are financed by owners' (shareholders') equity.
T/O (€)	Turnover (€)	Total earnings from daily operations from sale of goods and services to customers also to known as Revenue/Sales.
NI (€)	Net Income (€)	These are the net profits of a company after taking into account all costs and taxes. Alternatively referred to as Profit After Tax.
TD (€)	Total Debt (€)	Total debt is the sum of all short- and long-term liabilities.

Risk metrics		
Z-Score	SME Z-Score	The score is a number between 0 and 1000 that summarizes the risk profile of companies. The lower the number, the riskier the company. This represents a point-in-time, independent and objective assessment of the credit risk of a counterparty and it is grouped into 5 areas (distressed 0-100, high risk 101-250, medium risk 251-450, low risk 451-700, outstanding>700).
PD	Probability of Default	The SME Z-Score is transformed in Probability of Default (PD). This is the probability that the company would become insolvent or go bankrupt within the next 12 months.
LGD	Loss Given Default	Loss given default or LGD represents the portion of the loan that is not expected to be recovered if a borrower defaults. Considering the strong correlation between PD and LGD, we have developed several functions to estimate the LGD given a certain SME Z-Score, the level and type of assets, the cash flow and the sector conditions.
BRE	Bond Rating Equivalent	Using a methodology invented by Prof. Altman in 1989, we derive the Bond Rating Equivalent (BRE) for each company by mapping our score to the S&P rating scale. The highest BRE is A+ and the lowest is D.

Glossary (cont.)

Football terms		
SZN	Season	The season in which the games were played
P	Games played	Number of games played in domestic league competition
W	Games won	Number of games won in domestic league competition
L	Games lost	Number of games lost in domestic league competition
GS	Games scored	Number of goals scored in domestic league competition
GC	Games conceded	Number of goals conceded in domestic league competition
D Pos	Domestic position	Position in domestic league at the end of the season
CL Pos	Champions League position	Furthest position in UEFA Champions League for that season
Tr (€)	Transfer spend (€)	Total amount spent on transfer fees

Simon is a writer and strategy consultant covering tech, startups, and culture in Latin America. Formerly a Bain management consultant and startup chief of staff, he now writes at Technopoly. He is based in London and Mexico City. (Twitter: @_simonrodrigues)