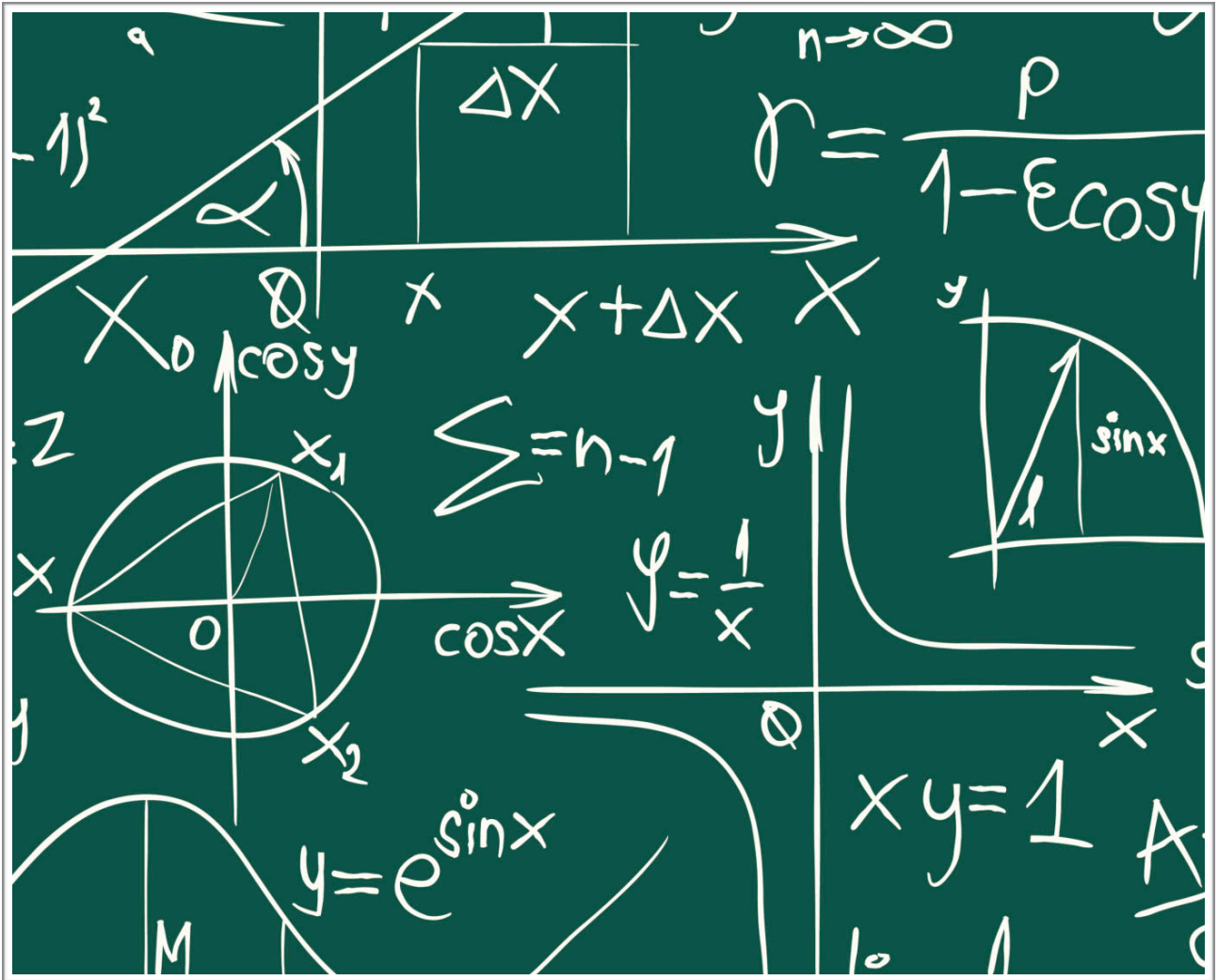




Carteret Analytics



Why Messi Should Have Won The Ballon D'Or 2017

Quantitative Analysis Paper

Carteret Analytics, London

8 December 2017



MESSI SHOULD HAVE WON THE BALLON D'OR 2017 (AND IT IS NOT EVEN CLOSE)

LIONEL MESSI SHOULD HAVE WON THE BALLON D'OR 2017. HE HAS CONTRIBUTED MORE TO HIS TEAM WINNING FOOTBALL MATCHES THAN CRISTIANO RONALDO.

IN FACT, LIONEL MESSI SHOULD HAVE ALSO WON THE BALLON D'OR IN 2016, AND HIS PERFORMANCES HAVE IMPROVED BY 1.1% DURING 2017 WHILST RONALDO'S PERFORMANCES HAVE DROPPED BY 9.7% OVER THE SAME PERIOD.

Carteret Analytics - Quantitative Analysis in Football

At Carteret Analytics we have further developed the quantitative analysis utilised to good effect in investment banking by our parent firm, Carteret Capital, for trading strategy, portfolio optimisation, derivatives pricing and hedging, and risk management - and applied it to football.

In particular, our work provides an objective measure of how good a football player really is - removing all the subjective noise and opinions.

An integral part of the analysis is to calculate a **Carteret Rating*** for every football player, which rates and values a player's contribution to his team winning football matches. Indeed, we always start with the premise that a professional football club's primary objective is to win matches - and therefore the more a player contributes to his team winning matches, the better the player.

Cristiano Ronaldo vs Lionel Messi

Cristiano Ronaldo's overall *Carteret Rating* (as at 7 December 2017) was **417.7**. By comparison, Lionel Messi's *Carteret Rating* was **501.1**.

These *Carteret Ratings* measure each player's contribution to Real Madrid and Barcelona (respectively) winning matches in La Liga and the Champions League in season 2016/17, and also in respect of the same competitions for the current 2017/18 season (up to 7 December 2017). Their *Carteret Ratings* are dynamic and change with each game they play.

Ronaldo's *Carteret Rating* in La Liga for the 2016/17 season was **407.1**. This represents a 9.7% drop in performance over the previous 2015/16 season. His performances so far this season in La Liga have seen a further and dramatic fall in his contribution to Real Madrid winning matches, with a current *Carteret Rating* of **288.3**. This equates to a 41.2% drop in performance level against his performances in La Liga in 2016/17, and a 54.8% drop against his performances in La Liga in 2015/16.

Ronaldo's best performances over the last year have been in this season's Champions League, where he has achieved a *Carteret Rating* of **587.6** - which is markedly higher than his performances in La Liga. It also significantly outstrips his contributions to Real Madrid winning matches in the 2016/17 Champions League



(which Real Madrid ultimately won) where his *Carteret Rating* was **470.3**. This suggests that other team members were relatively more influential in Real Madrid winning the Champions League in 2016/17, and, in any event, Lionel Messi provided a much higher contribution to Barcelona winning matches in the Champions League in 2016/17 (than Ronaldo for Real Madrid).

The analysis highlights a clear pattern of Lionel Messi contributing more to his team winning matches, than Cristiano Ronaldo, in every competition over the last year save for this season's Champions League (which is only 6 games). Their comparative *Carteret Ratings* are as follows:

| | | |
|--------------------------------------|---------------------|-----------------------|
| La Liga 2016/17 | Messi: 505.4 | Ronaldo: 407.1 |
| UCL 2016/17 | Messi: 564.2 | Ronaldo: 470.3 |
| La Liga 2017/18 (to 5 December 2017) | Messi: 481.9 | Ronaldo: 288.3 |
| UCL 2017/18 (to 5 December 2017) | Messi: 406.2 | Ronaldo: 587.6 |

There has been some discussion in the media about how Ronaldo's performances in the second half of the 2016/17 season were remarkable and thereby justify him winning the Ballon D'Or 2017. Whilst he did contribute more to Real Madrid winning matches in the second half of the Champions League 2016/17 (up by 39%), his contribution over the entire tournament was still 20% lower than Messi's contribution for Barcelona. Moreover, in La Liga, Ronaldo's performance levels actually dropped by 1.4% in the second half of the 2016/17 season.

In summary, when assessing the performances over the whole period above, Messi contributes more to his team winning football matches with an overall *Carteret Rating* of **501.1** (compared to **417.7** for Ronaldo). That is why, objectively and ignoring all the subjective noise, Messi should have won the Ballon D'Or 2017.

Further Information and Contact Details

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***Carteret Rating: this is a proprietary method of determining how good a player really is. It is a significant and leading-edge algorithm. We assess a player by identifying every match in which he has been involved (for which we have data) and identifying the key events in each and every one of those matches. These Key Match Events ("KMEs") are events that led to a goal being scored; could have led to a goal being scored; led to a goal being conceded; or could have led to a goal being conceded. Then, for each and every KME, in each and every single match, we analyse that player's contribution to each of those KMEs. This is a substantial piece of analysis, and one which produces a unique Carteret Rating for the player. It is a dynamic rating, and it changes with each additional match played.**