CarteretAnalytics

Quantitative analysis on Harry Maguire's performances - is he the real deal for Manchester United?

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1.   So, how good is Harry Maguire, really?

Following some notable performances for England in the World Cup in 2018 there has been significant speculation over the last 12 months about Harry Maguire's club future.

Earlier in Summer 2019 there were rumours that both Manchester City and Manchester United had a strong interest in acquiring Harry Maguire in the forthcoming transfer window. Whether or not it was a genuine battle for him, Manchester United eventually signed him for a reputed £80m.

Is Harry Maguire worth £80m? What was his intrinsic value to Leicester City? How does he compare objectively to the other central defenders at Manchester United (and elsewhere)? Has he got the capabilities to bring value to Manchester United?

2.   The headlines

- Harry Maguire contributed more to Leicester City winning football matches in Season 2018/19 than in Season 2017/18 (which, in turn, was an improvement over his performances in Season 2016/17 for Hull City).
- Maguire was objectively better than all of the Manchester United central defenders in Season 2018/19. However, Smalling and Jones were both objectively better than Maguire in Season 2017/18; and Jones was also better than Maguire in Season 2016/17.
- Maguire has always performed better than Lindelof and Bailly over the past 3 Premier League seasons.
- Over the past 3 Premier League seasons, Virgil Van Dijk has performed consistently better than Maguire. Van Dijk's performances (over the course of a Premier League season) were **21.7%** better than Maguire in Season 2018/19, **15.3%** better in Season 2017/18 and **13.6%** in Season 2016/17.
- Maguire's *Intrinsic Value* for Leicester City is **£49.35m**. His projected *Intrinsic Value* for Manchester United, based on the objective analysis of his performances, is **£73.36m**; for Manchester City it would be **£76.42m**; and, by means of further comparison, for Liverpool it would be **£78.10m**.

3.   A little bit of science…

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

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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**[3] for every football player, which rates and values a player's contribution to his team winning football matches. It is incredibly accurate at predicting a player's capabilities. 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.

Carteret Analytics has also extended the *Carteret Rating* to give each player an **Intrinsic Value** (in monetary terms). This is essentially the value of the player 'in use' - the monetary value of his contribution to his club winning football matches. It is a sophisticated financial calculation - utilising proprietary algorithms - and which can be applied to and by other clubs. This enables, for example, a prospective buying club to virtually (yet objectively) 'transplant' a player into its own team to determine his potential *Intrinsic Value* for the buying club. Once the prospective buying club has this information, it can help inform them of the appropriate transfer fee to offer to the player's current club.

4.   Have Manchester United overpaid?

Let's breakdown the deal into its constituent parts. The *Intrinsic Value* of **£73.36m** essentially represents a break-even position for Manchester United. This is the contribution that they can expect Maguire to make to the United team, expressed in monetary terms. It takes account of a myriad of metrics, including formations, other players, combinations of players, ages, *Key Match Events* in United matches over a specified period, and it is higher than the Leicester *Intrinsic Value* because his impact is likely to be higher at Manchester United.

If Manchester United had the benefit of knowing this *Intrinsic Value* then they should rationally aim to buy Maguire for a figure lower than, or equal to, **£73.36m**. By comparison Leicester City should aim to realise a transfer fee in excess of his *Intrinsic Value* to Leicester **(£49.35m)**.

If Leicester City knew Maguire's Intrinsic Values for both Leicester and Manchester United, then they have an insight into both ends of the deal - and it might encourage them to keep pushing for a transfer fee equal to, or higher, than the United *Intrinsic Value*.

As it transpires, a reputed transfer fee of **£80m** suggests that Manchester United have overpaid by **c.£6.5m**. United might argue that Maguire is only 26 years old, and that he has the potential to improve over the next few years. An extrapolation of Maguire's performances over the last 3 seasons indicates to us that there is not much room for further improvement, and it is certainly interesting that Manchester United have reportedly given him a 6 year contract.

On the other hand, Leicester City are likely to be pleased with this bit of transfer business. **They have achieved a transfer fee that is £30m in excess of Maguire's Intrinsic Value for Leicester, and they have even exceeded his *Intrinsic Value* for Manchester United.** The smart move now for Leicester City is to find a central defender with a high *Intrinsic Value* (preferably higher than Maguire's, if possible) and buy him at a significant discount to that *Intrinsic Value*. That way they can acquire a player

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[3] *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.

of a similar (possibly better) quality in the central defender position, and make a substantial profit on the trade.

5.   The new 'Big Short' and football's Flash Boys

This is the evolution of the business of football. Of course, football players are human beings, but in many respects they are assets that are capable of being traded in the same way as investment banks, corporate traders and hedge funds trade commodities or other assets. Fund managers at these types of financial organisations will employ and utilise as many sophisticated algorithms and insights as possible, to maximise the accuracy of predictions to allow them to buy low and sell high, or, indeed, to 'short' a commodity or asset which the objective information suggests is overpriced.

In the modern era of football business, the football club owners and CEOs are the Fund Managers in a market full of inefficiencies and poor information. In this context, those inefficiencies equate to significant opportunities (and a massive competitive advantage) for those with leading-edge, and accurate, objective insights.

6.   Carteret Rating - the data analysis

The table below highlights Harry Maguire's *Carteret Ratings* for the 2018/19, 2017/18 and 2016/17 seasons - alongside the Manchester United and Manchester City central defenders, and Virgil Van Dijk.

Premier League 2018/19 Maguire: **312.7** Van Dijk: **380.6** Smalling: **274.1** Lindelof: **286.9** Jones: **259.1** Bailly: **178.8** Stones: **299.4** Otamendi: **284.5** Kompany: **311.4** Laporte: **369.1**

Premier League 2017/18 Maguire: **300.8** Van Dijk: **346.8** Smalling: **310.8** Lindelof: **256.4** Jones: **309.8** Bailly: **267.3** Stones: **294** Otamendi: **371.6** Kompany: **368.2** Laporte: **305.5**

Premier League 2016/17 Maguire: **280.6** Van Dijk: **318.9** Smalling: **272.9** Lindelof: **197.1** Jones: **332.4** Bailly: **266.8** Otamendi: **333.1** Stones: **286.6** Kompany: **316.4** Laporte: **275.7**

Once again, these *Carteret Ratings* measure each player's contribution to their respective teams winning matches in the Premier League, and these *Ratings* are dynamic and change with each game they play.

Smalling's *Carteret Rating* in the Premier League for the 2018/19 season was **274.1**. This represents a **13.4%** drop in performance over the previous 2017/18 season. By comparison, Victor Lindelof had a *Carteret Rating* of **286.9** for the 2018/19 season, and although this shows an increase in Lindelof's performances over the previous season it still highlights the clear divide in how both Maguire and Lindelof benefit and contribute to their teams.

In relation to Stones and Otamendi, John Stones is the closest player to Maguire, with a *Carteret Rating* of **299.4** - which is still **4.4% lower** than Harry Maguire. Nicolas Otamendi earned a fairly solid *Rating* of **284.5**, but still **9.9% lower** than Maguire.

Virgil Van Dijk has been feted as the stand out Premier League central defender for the 2018-19 season, and this is supported by a *Carteret Rating* of **380.6**. This is a significantly higher performance level (**21.7%**) than Maguire.

The other headline central defender transfer in the Summer 2019 transfer window has been the sale of Matthijs De Ligt by Ajax to Juventus for a reported **£67.5m**. His *Carteret Rating* figures are:

2018/19 **341.8** 2017/18 **339.9** 2016/17 **235.0**

With the exception of the 2016/17 season (when De Ligt was only 17 years old), De Ligt's performances were **13.0% better** than Maguire in 2017/18, and **9.31% better** in 2018/19. De Ligt's performances have trailed those Van Dijk over all three seasons in question, but there is a 9 year age difference. The statistical extrapolation of De Ligt's performances over the next 3 years suggests that he has huge potential to eclipse Van Dijk, perhaps as early as Year 2.

About Carteret Analytics

Carteret Analytics is part of the Carteret Group of companies, based in the City of London, New York and Geneva. It provides leading-edge quantitative analysis and commercial analytics to clients worldwide, with particular expertise in the sports sector. In football our work includes player rating and valuation, head coach assessment, team performance analysis, and applying proprietary analytics to transform commercial revenues.

Further information and contact details

If you have any questions, or would like to enquire about further services provided by the Carteret Group, then please feel free to contact one of the team members listed below. We would be delighted to hear from you and discuss our work in more detail.

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