CIES Football Observatory

Prospect Sheet: Glossary

The **CIES Football Observatory Prospect Sheet** has been designed to present a broad but synthetic view of the characteristics of world football's best prospects. A number of original metrics have been developed for this purpose, which are summarised in this document. More information is available on request.

The first block of information relates to the player's career, with details of the clubs and/or national teams in which he has played since his 12th birthday up to the date of writing. The development of the career since the first official match played at adult level is represented by the **experience capital** indicator. This 100-based metric is calculated from the minutes played by the footballer over the last year, weighted by the sporting level of the matches. More information in this note.

A second block of information presents the player's **transfer value**, estimated using a statistical model (multiple linear regression) developed exclusively by the CIES Football Observatory. Built on the basis of more than 6,500 paying transactions completed over the last seven years, and taking into account multiple indicators linked to the characteristics of both players and their teams, this model makes it possible to account for almost 90% of the differences in the prices paid by clubs, as explained in this scientific paper.

Two valuations are presented: the estimated value for a **likely buyer**, itself projected from an *ad hoc* statistical model also built on the basis of the characteristics of the players and their teams, and the estimated value for a **top club**. The gap between these two values reflects the differences in the financial possibilities of the likely buyer and the richest teams, the fair price also being defined according of the economic strength of the engaging club.

This same block of information shows the breakdown of domestic league minutes played by the footballer during the current season or the last completed one for his team of employment, according to nine positions: centre back, right or left full/wing back, defensive midfielder, central midfielder, attacking midfielder, right or left winger, centre forward. This data, as well as that relating to players' technical performance, is provided by our partner Impect.

A third block of information presents two performance indicators: an absolute index and a relative one. The first is calculated from players' performances in seven **game areas**:

- **aerial play**: aerial duels won compared to the team average and success rate.
- **ground defence**: ground duels won in own half compared to team average and success rate; interceptions in own half compared to the team average.
- **build-up**: successful passes from own half compared to the team average and success rate.
- **orchestration**: successful passes from the opponent's half compared to the team average and success rate.
- **take on**: successful dribbles and success rate; progressive carries of at least eight metres towards the opponent's goal.
- **assists**: passes leading to a shot weighted by the probability of a goal (xG of shots); passes leaving a maximum of one opponent (not including the goalkeeper) closer to the goal than the ball; passes received by a teammate in the central rectangle of the opponent's penalty box.
- **shooting**: number and effectiveness of shots (difference between goals scored and expected); frequency of goals.

The performance values in each game area refer solely to the domestic league matches played by the footballer with his current club during the ongoing season or the last completed one. The values are systematically weighted by the sporting level of the matches played, according to the same method used to calculate the experience capital metric, as well as by the average number of minutes per match played, in order to value rarely substituted starting 11 players.

To determine the **absolute index**, the indicators for each area of play are converted into rank and transformed via a standardised quantile, retaining only the right half of a normal distribution (quantiles between 0.5 and 1). The calculation takes into account the maximum value between the seven indicators indicated above, the average of the three best scores, and the maximum value between the average and the median, with a rescaling of the values from 40 to 100. A further adjustment by position ensures the index's comparability for all players.

The **relative index** is the ratio between the player's absolute index value and the average measured for players of his club of employment, so as to highlight the footballers who outperform their teammates (any values above one).

This block of information also details the players' level of involvement in six game areas - the same as those set out above, but with the build-up and orchestration registers grouped together into a distribution domain - according to a metric that simultaneously takes into account the level of activity in relation to both teammates and same position players. The **activity radar** thus expresses the relative involvement of players in each area of play, with the maximum value for the register in which they are the most active and the other values rescaled accordingly.

The **technical profile** is defined by considering the player's main area of activity in relation to both teammates and footballers in the same position, the position primarily occupied - according to six categories: centre back, full/wing back, defensive midfielder, attacking midfielder, winger and centre forward - as well as the second game area in which the player is most active. By way of example, a centre back whose main domains are aerial play and ground defence will be defined as an aerial centre back with ground defence ability.

A fourth block of information presents five **similar players** to the one analysed from the point of view of the main areas of activity and the main position played. As far as possible, the selection focuses on footballers who are already active in top-level clubs and are therefore known to the general public.

The document also presents the *Impect* values for around ten **key performance indicators** selected according to the profile of the footballer analysed. Each indicator is presented per 90' of play, in relation to the team average - any value above one indicating overactivity and vice versa - and in relation to the average for players in the same position and league. For each of these three values, we also present the percentile in relation to all players. A value of 99 indicates that the player is in the top 1% of footballers for the indicator in question.