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JUNE 2016

## It's (probably not) coming home

### PREDICTING THE OUTCOME OF EURO 2016

*With Euro 2016 kicking off tonight, Frontier's latest bulletin takes a light-hearted look at what the odds say about who might lift the trophy. England head into the tournament as the only team to have won all their qualification matches and hold a winning historical record against almost every other team present. However, they are perennial underperformers on the big stage and have never beaten a team ranked higher than themselves in the European championships. So who are the favourites, and what route might England have to navigate in order to reach the final? Relying on the "wisdom of crowds", Frontier have crunched the numbers using the latest betting odds to find out*

Flick through the sports pages of any newspaper and you'll see plenty of experts offering their top tips for Euro 2016. Of course, not everyone agrees: Jamie

Redknapp favours France, Alan Smith fancies England while Matt Le Tissier is plumping for Austria<sup>1</sup>. So is the winner anyone's guess? While the opinions of individuals – including experts – may differ, economic literature suggests that the “wisdom of crowds” is often the most accurate method to forecast the future, whether that be in financial markets or major sporting events. In fact, in sports, numerous studies have provided evidence that betting odds are good predictors of outcomes<sup>2</sup>.

An analysis of historical data from the past three European Championships corroborates this. Having crunched the data, we found that the betting odds offered significant predictive value for the tournaments. During group matches, games have three possible outcomes (either side could win or the two teams could draw). Bookmakers managed to correctly predict the winner (or a draw) for 50-60% of group games (much higher than the 33% which would be expected by pure chance). In the knockout stages of the tournament a draw is no longer a possible outcome. Even in the unpredictable Euro 2004 (when Greece shocked the footballing world to win its first major trophy) and Euro 2008 (when Russia and Turkey were both surprise semi-finalists), the betting odds still correctly predicted the outcome of almost 60% of knockout matches. During Euro 2012, which saw a more familiar looking quartet of Spain, Germany, Italy and Portugal in the semi-finals, the bookmakers correctly predicted almost 90% of matches during the knockout phases.

**Table 1.** Accuracy of betting odds in past tournaments

	Percentage of matches won by the favourite	Percentage of group matches won by the favourite	Percentage of knockout round matches won by the favourite
<b>Euro 2004</b>	52%	50%	57%
<b>Euro 2008</b>	58%	58%	57%
<b>Euro 2012</b>	67%	58%	86%

Source: *Frontier Economics*

## WHAT ABOUT THIS YEAR?

With this in mind, we have reviewed the betting odds for Euro 2016 from 26 bookmakers to estimate the most likely outcomes<sup>3</sup>. Host-nation France are

<sup>1</sup> See <http://www.skysports.com/football/news/19693/10300549/france-germany-spain-england-or-even-austria-pundits-pick-their-euro-2016-winner>

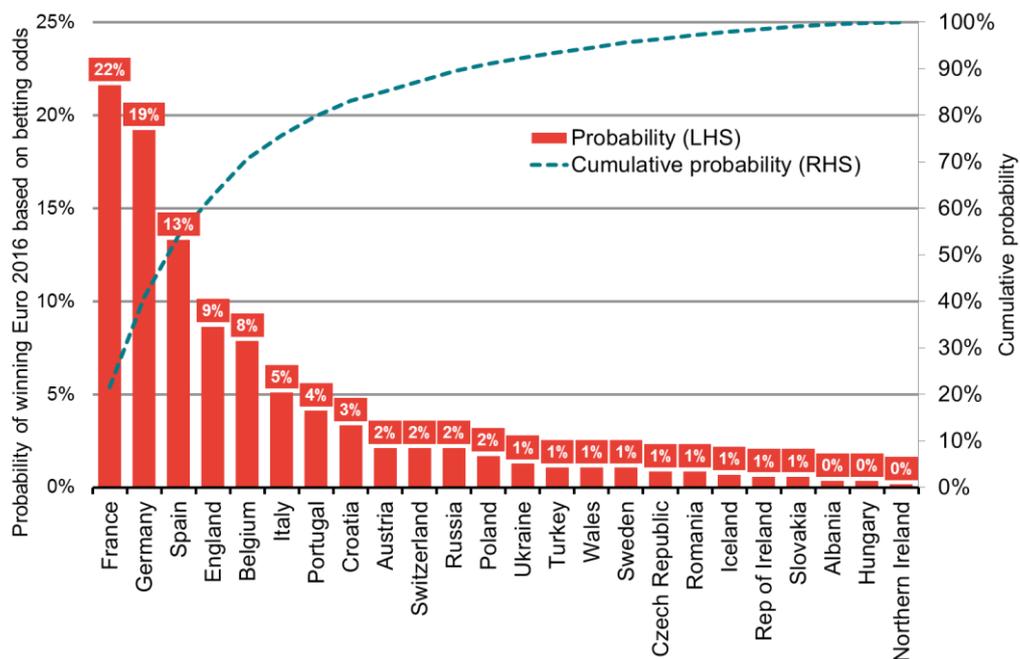
<sup>2</sup> For example see Pope and Peel (1989), Plott et al. (2003), Forrest et al. (2005), Vlastakis et al (2007) and Spann and Skiera (2008).

<sup>3</sup> Data from Oddschecker.com

currently the tournament favourites, with a 22% likelihood of winning based on the betting odds- but competition is fierce. Other heavyweight contenders include the reigning World Cup Champions, Germany (19%) in second place, and Spain (13%) will be hoping to make it three Euro tournament victories in a row. These three teams combined have a 54% chance of winning the tournament.

**Figure 1** below sets out the probability, based on betting odds, of each of the 24 teams competing at Euro 2016 winning the tournament.

**Figure 1.** Who's the favourite? Odds of winning Euro 2016 by team

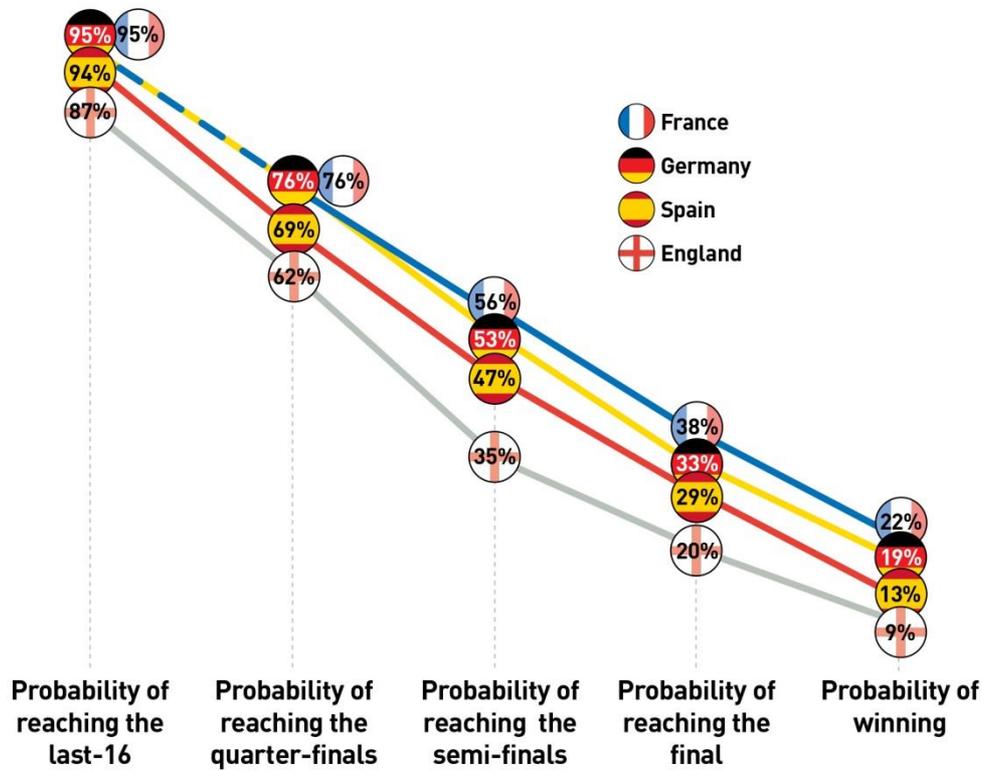


Source: Frontier Economics

Unfortunately for the authors of this briefing, England are only fancied at 9/1<sup>4</sup>, which means there is a 91% chance that football will not be “coming home” this year. While bookmakers are confident that England will at least make the quarter-final (62% chance), their odds of remaining in the tournament decline rapidly after this point, with just a 20% chance that they will make it to the final. For France and Germany, the odds suggest that it is more likely than not that they will at least reach the semi-finals. **Figure 2** below shows the likelihood of each of the four pre-tournament favourites remaining in the tournament at the start of each round.

<sup>4</sup> The most common odds offered by bookmakers on Oddschecker.com

Figure 2. Survival functions for the top four teams in the tournament

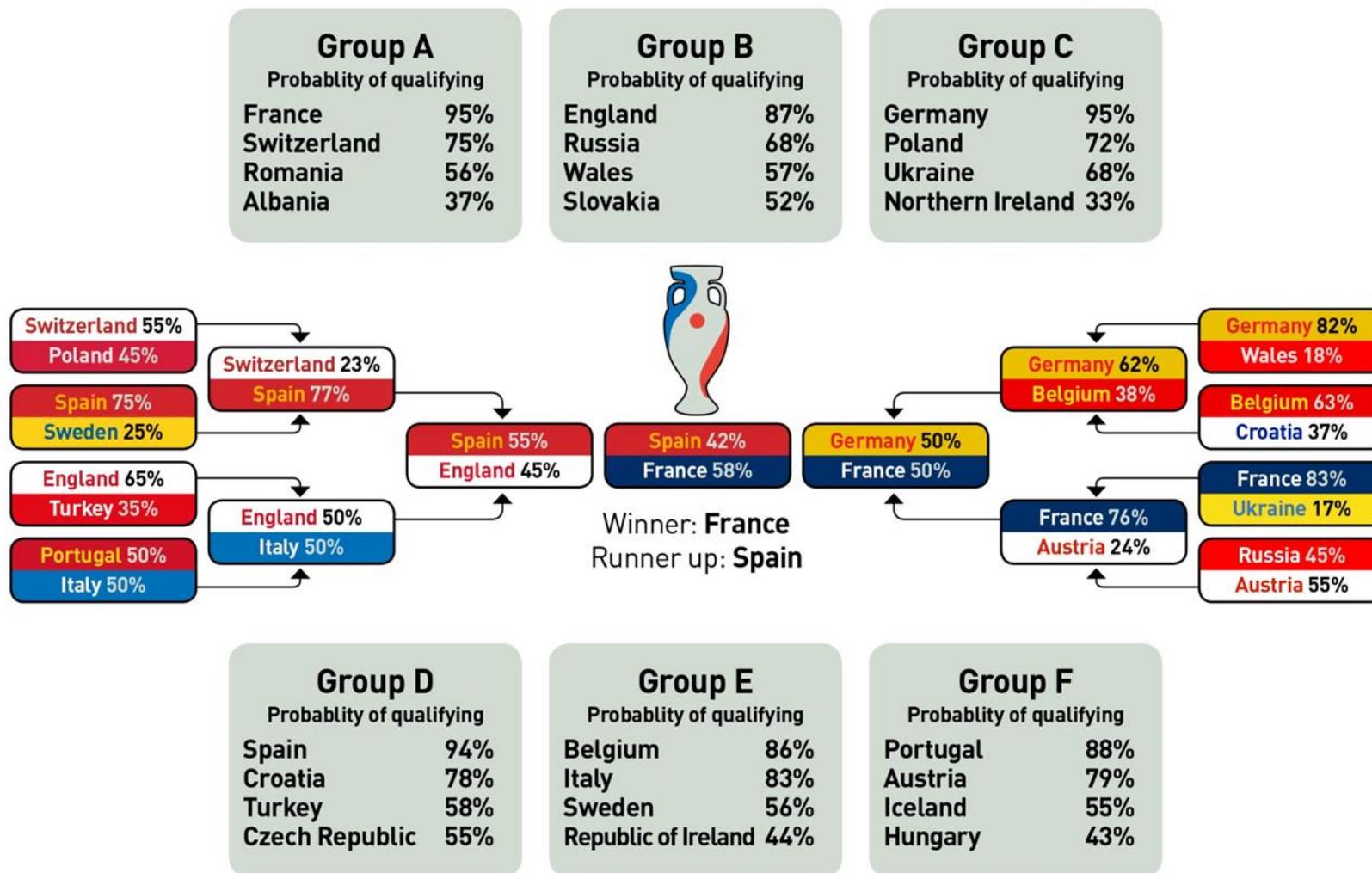


Source: Frontier Economics

### THE ROAD TO THE FINAL

As a next step, we have crunched the numbers of every group game in the upcoming tournament to predict the most likely result and therefore the most likely games in the round of 16. Then, using the ratio of the odds of each team to win and to come second in the upcoming tournament, we have estimated the likely outcome of all knockout games right up to the final. As **Figure 3** below shows, this analysis suggests that France are likely to face (and just beat) Germany in one semi-final, while England will make it 50 years of hurt, by falling to Spain in the other (based on the generous assumption that they ultimately defeat Italy in the quarter-finals, which bookies have put down as a coin-toss). France will then vanquish Spain in the final; you can currently get odds 20/1 on France beating Spain in the final, which equates to a probability of just under 5%.

Figure 3. The most likely tournament outcome?



Source: Frontier Economics

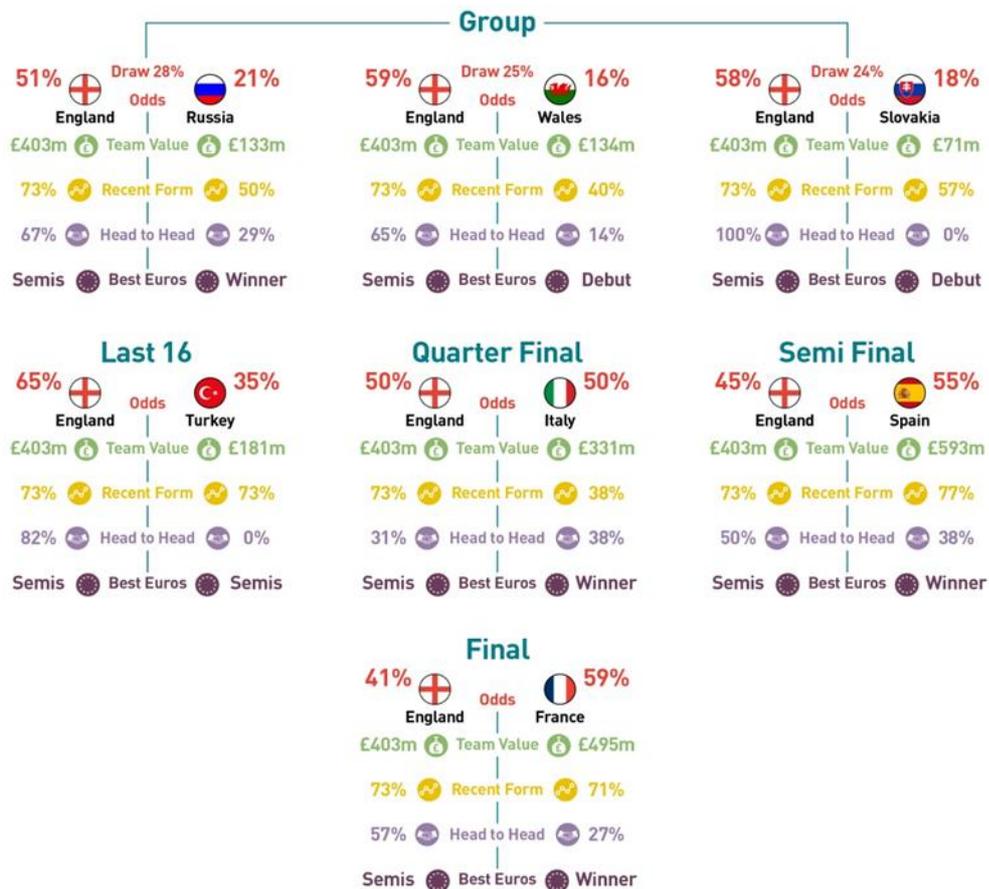
Notes: Where a match is predicted to be 50:50 by the betting odds, we have progressed the team with the higher overall probability of winning the tournament.

## WE STILL BELIEVE...

While the probabilities suggest that England are more likely than not to be ejected from the tournament before the semi-finals, there are reasons to be positive. Teams battling the odds can take heart from the almighty performance of underdogs Leicester City who defied odds of 5,000-1 (0.02%) to win the 2015-2016 English Premier League. Further, the odds suggest that there is everything to play for: even France, the tournament favourites, still only have a 38% chance of making the final and a one-in-five chance of lifting the trophy.

In the spirit of never stopping the dreaming, we finish with the most likely seven teams that England will have to overcome if they are to end their 50 years of hurt since winning the World Cup in 1966.

**Figure 4.** England's route to the final



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