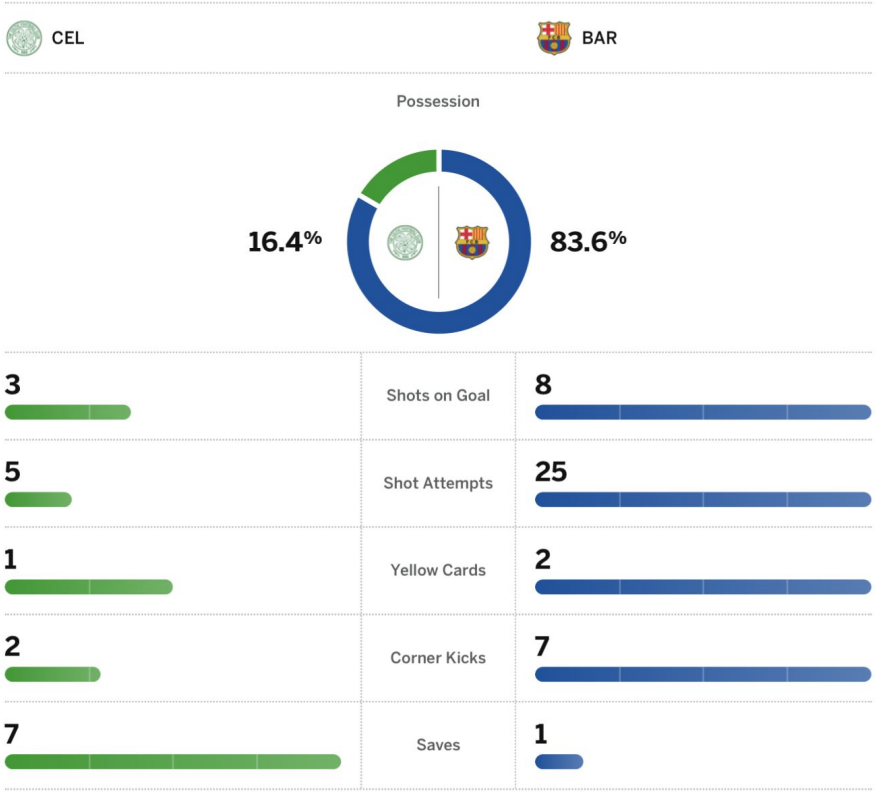
Did we deserve to win?

A post-match analysis of Japan’s performances against Germany and Spain in the 2022 World Cup

A Quick Game: Guess the score!



I would argue that . . .

- The soccer gods are just - whoever deserves to win will win.
- With a proper game plan, commitment, and dedication, David will beat Goliath.

Group E

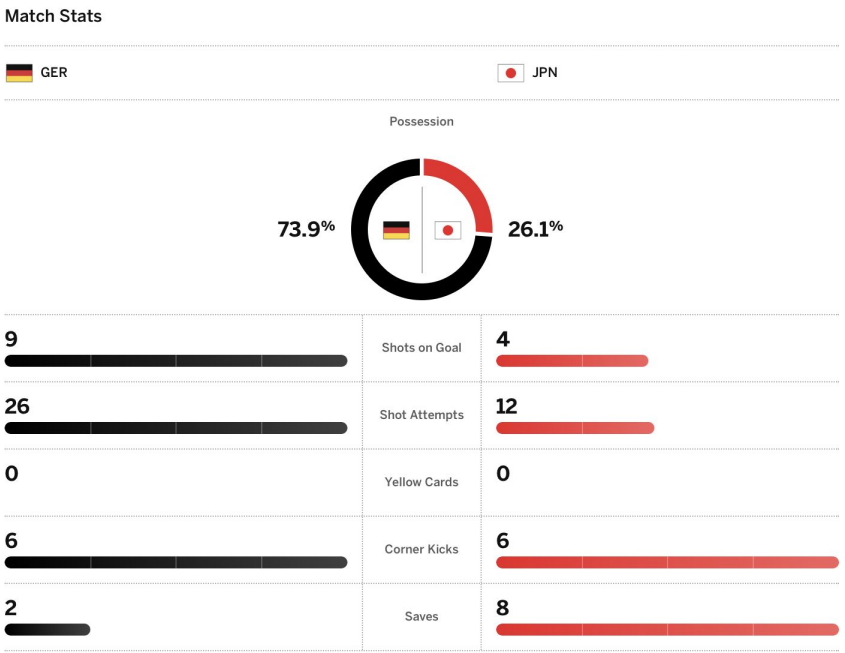
World Cup 2022

Opta Analyst

		GROUP				KNOCKOUT				
		1st	2nd	3rd	4th	Last 16	QF	SF	Final	WINNER
1	Spain	50.5%	34%	12.2%	3.3%	84.5%	52.5%	30.1%	16.4%	8.9%
2	Costa Rica	1.9%	7.9%	27%	63.2%	9.8%	2.7%	0.6%	0.1%	0%
3	Germany	40.8%	39.5%	15.1%	4.6%	80.4%	49%	27.3%	14.7%	7.7%
4	Japan	6.7%	18.6%	45.7%	29%	25.4%	8.9%	2.9%	0.9%	0.2%

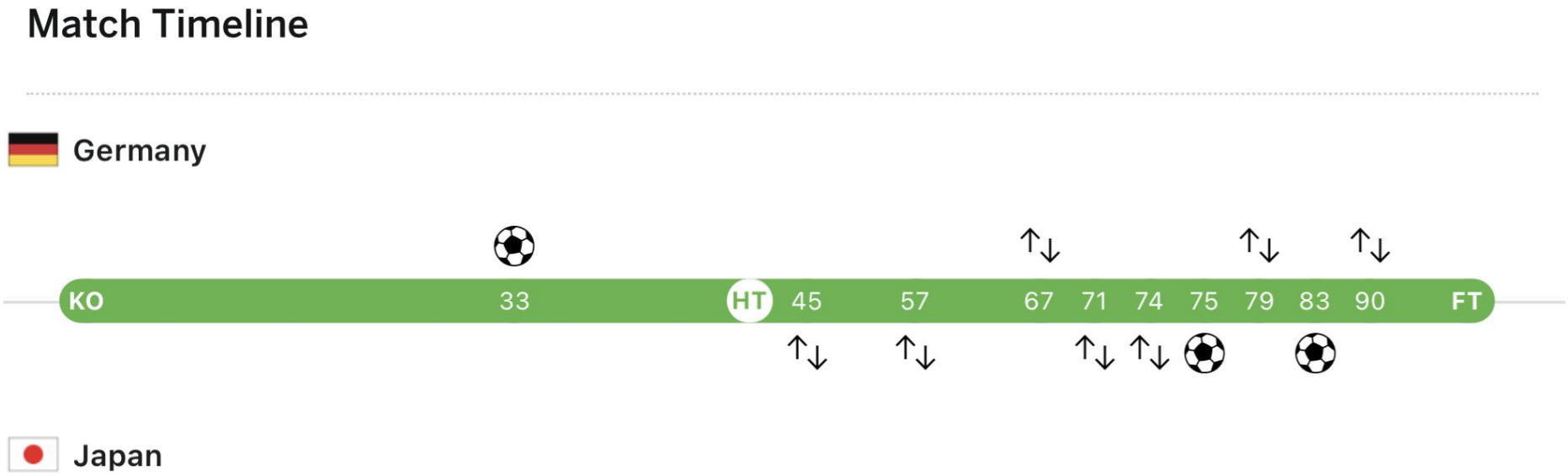
Spain and Germany expected to dominate, Japan written off as losers.

Germany **1 - 2** Japan

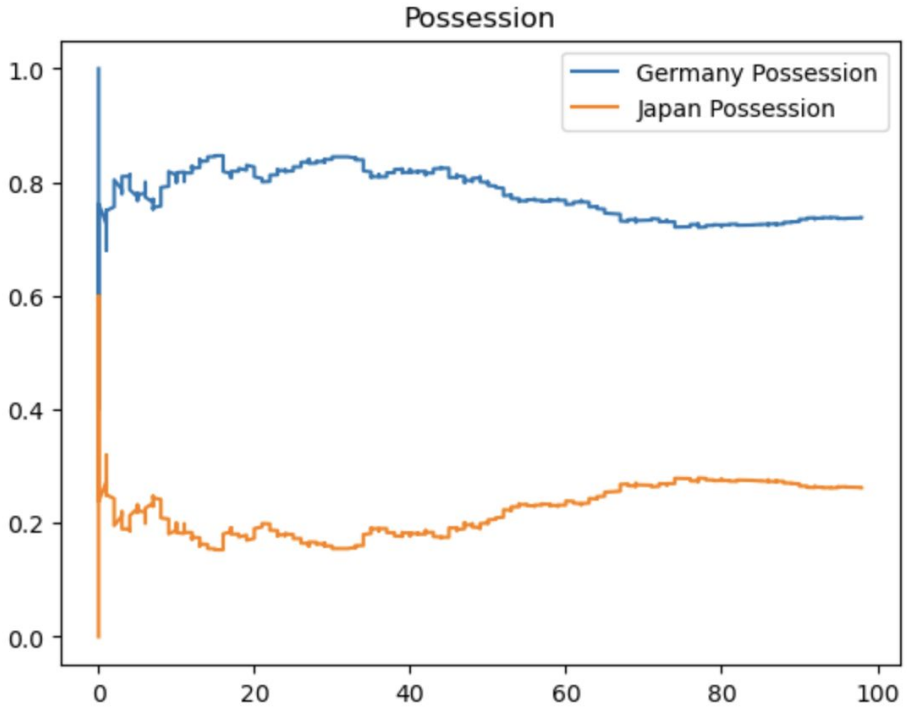


Germany dominated possession and created more shots but still lost. Why?

Timeline: Japan flips the game in the last 15 minutes



Timeline: Germany dominates possession

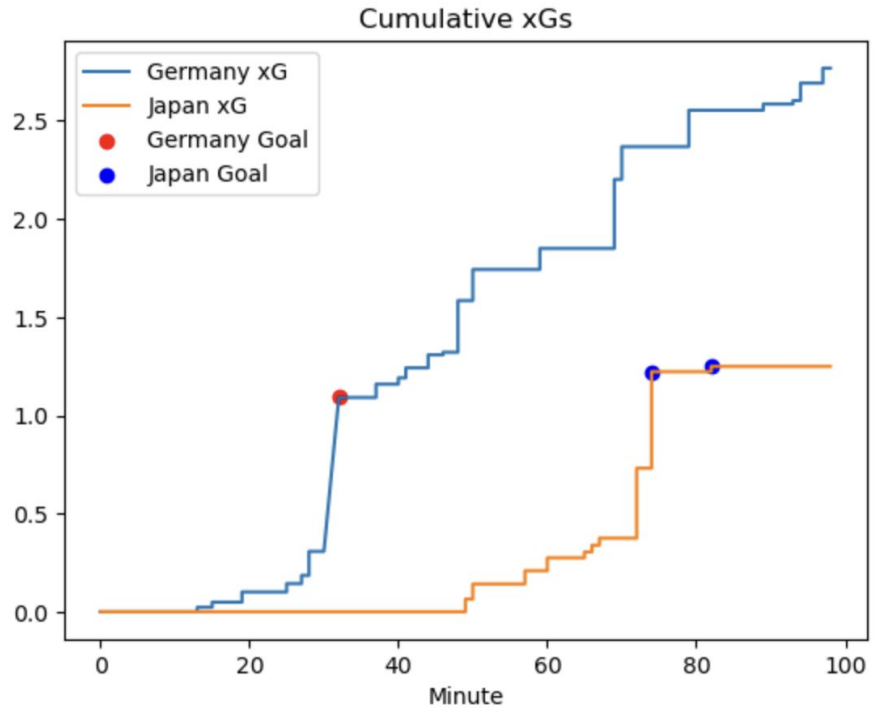


Timeline: Cumulative xGs

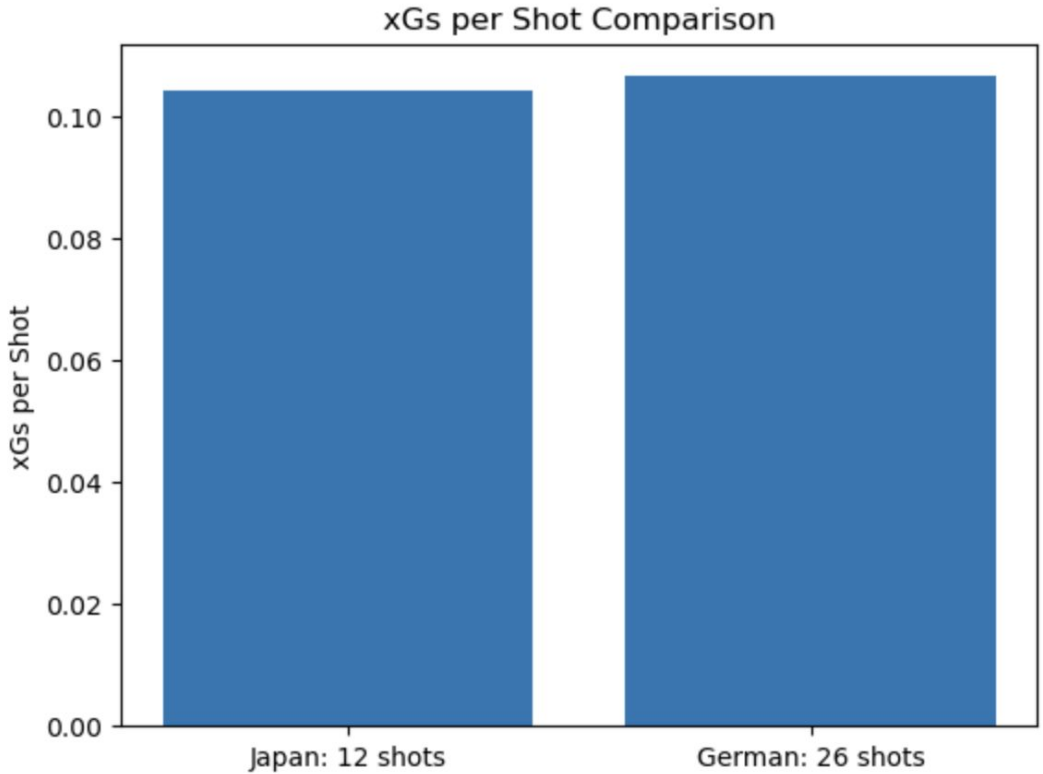
Total Cumulative xGs

- Japan: **1.25**
- Germany: **2.77**

Did Germany deserve to win? To answer this, let's take a deeper look at each individual shot.



Average xGs per Shot



On average, both teams created similar quality chances. Yet, Germany had over double the shots. Statistically, Germany should have won. But . . .

Probability Theory

Each shot is (in theory) an **independent event**. This means that when looking specifically at shots, the outcome of one does not impact the outcome of another.

While xGs don't exactly represent probability, they represent the likelihood that a shot ends up a goal (I.E. a shot with an xG of .25 means the shot will be a goal with the likelihood of 25/100).

Therefore . . .

Total xGs can be deceiving, and a single, high-value shot is better than multiple, low-value shots.

Example:

Team A:

Shot 1 (S1) = **0.25**, Shot 2 (S2) = **0.25**

$P(S1) = 0.25 \qquad P(S2) = 0.25$

$TotalTeamA = P(S1) + P(S2) = 0.5$

Team B:

Shot 1 (S1) = **0.3**

$P(S1) = 0.3$

$TotalTeamB = P(S1) = 0.3$

Probability of converting all of their shots

$P(S1) * P(S2) = 0.0625$

$P(S1) = .3$

In the context of soccer . . .

It is better to have a single shot from a cut-back cross on top of the 6-yard box with an xG of 0.8

instead of ten shots from outside of the box, each with an xG of 0.1.

Top 5 xG shots using Statsbomb

	shot_statsbomb_xg	shot_outcome	minute	team
0	0.783500	Goal	32	Germany
1	0.477751	Goal	74	Japan
2	0.326579	Saved	69	Germany
3	0.287729	Off T	72	Japan
4	0.215083	Wayward	48	Germany

If we take into consideration that Germany's goal was a PK, Japan created better chances from open play

Goals xGs

	shot_statsbomb_xg	shot_outcome	minute	team
0	0.783500	Goal	32	Germany
1	0.477751	Goal	74	Japan
31	0.026684	Goal	82	Japan

Japan scored from a shot with 0.03 xGs

Conclusion: Japan deserved to win

Japan

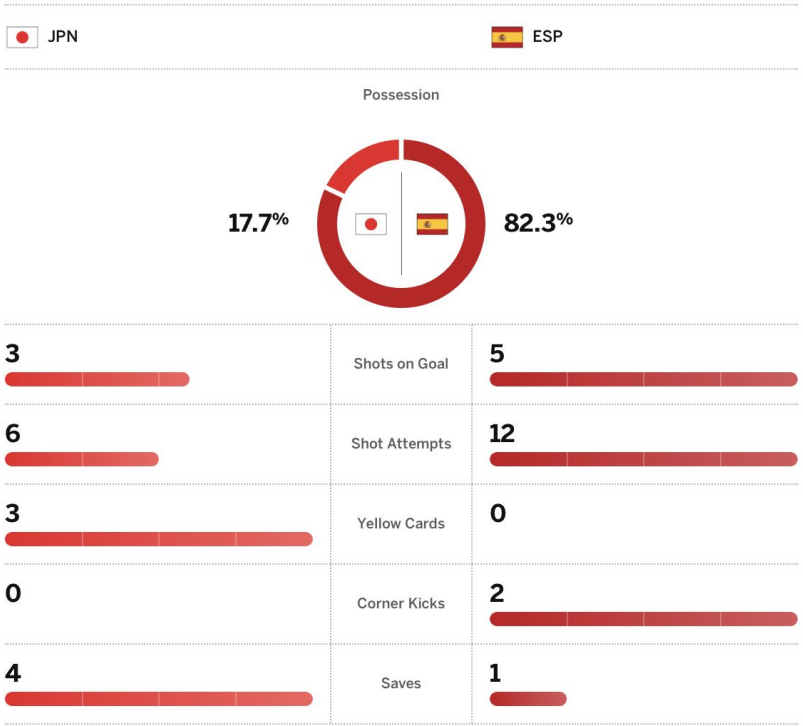
- Created the better chances and made the most of every opportunity.
- Full-team commitment to the game plan.
- Strong defensively.

Germany

- Data highlights the weakness in their attack, mainly a lack of a goal-scorer.
- Weak defense, lapse in concentration lead to them conceding a goal with 0.03 xGs

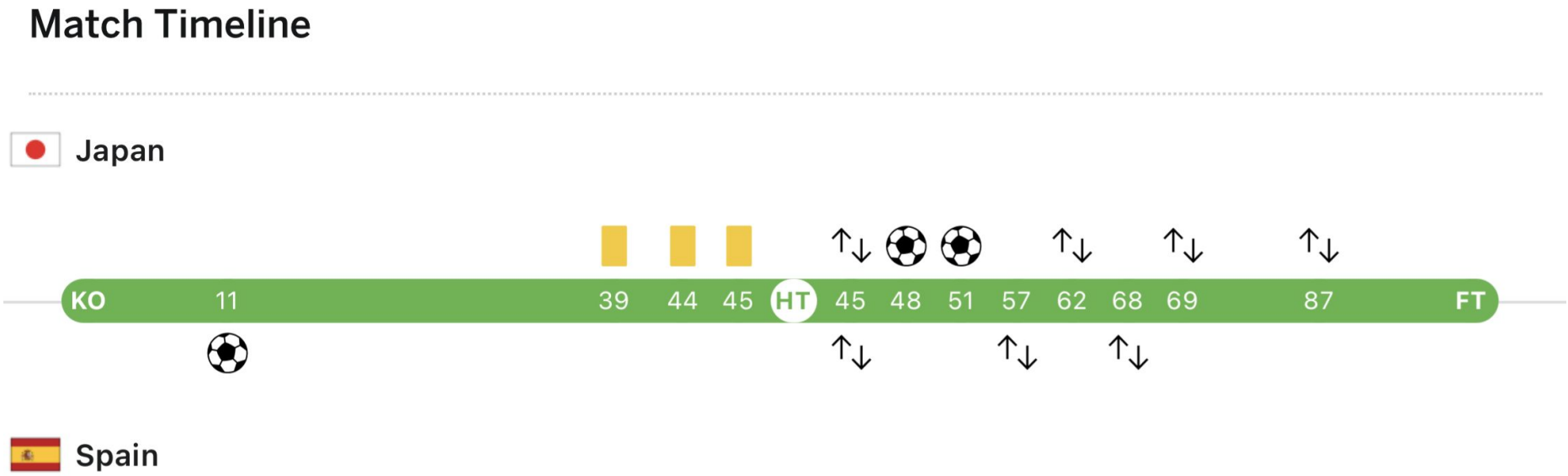
Spain **1 - 2** Japan

Match Stats

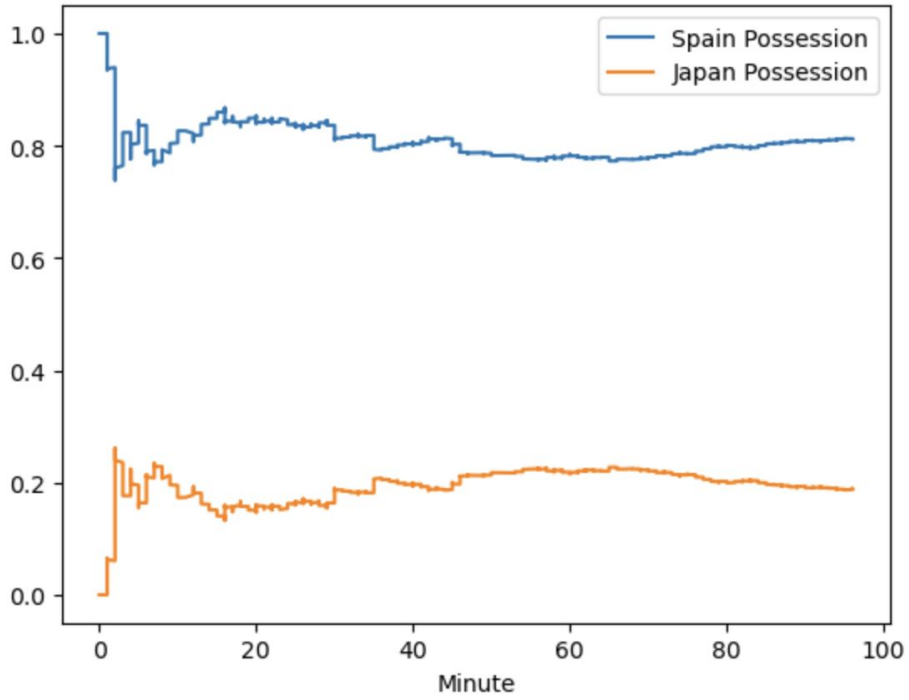


Same story

Timeline: It took 3 minutes for Japan to flip the game



Timeline: Spain dominates possession, again



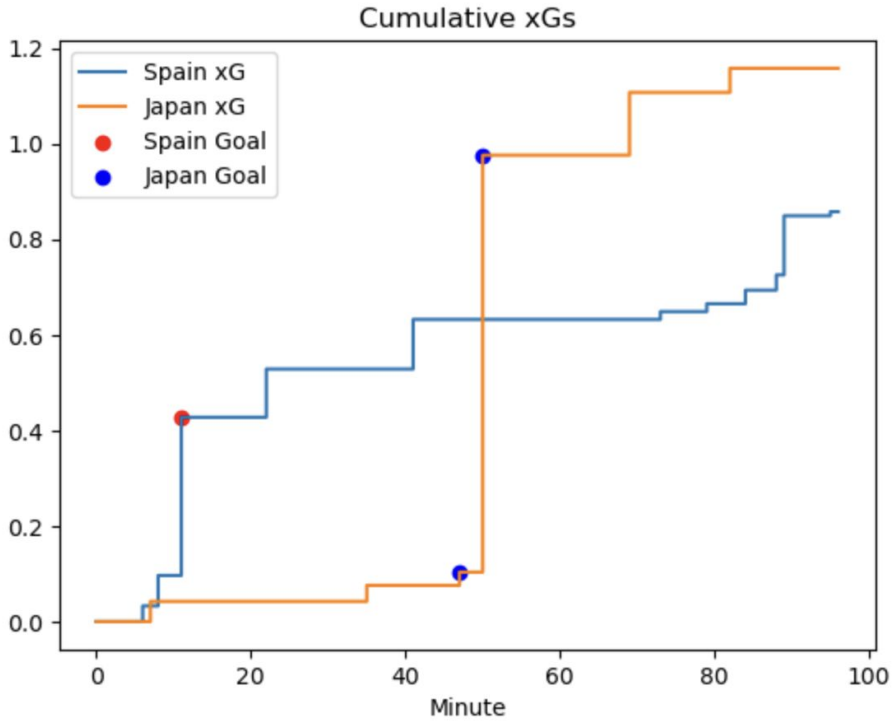
Minutes including stoppage

Timeline: Cumulative xGs

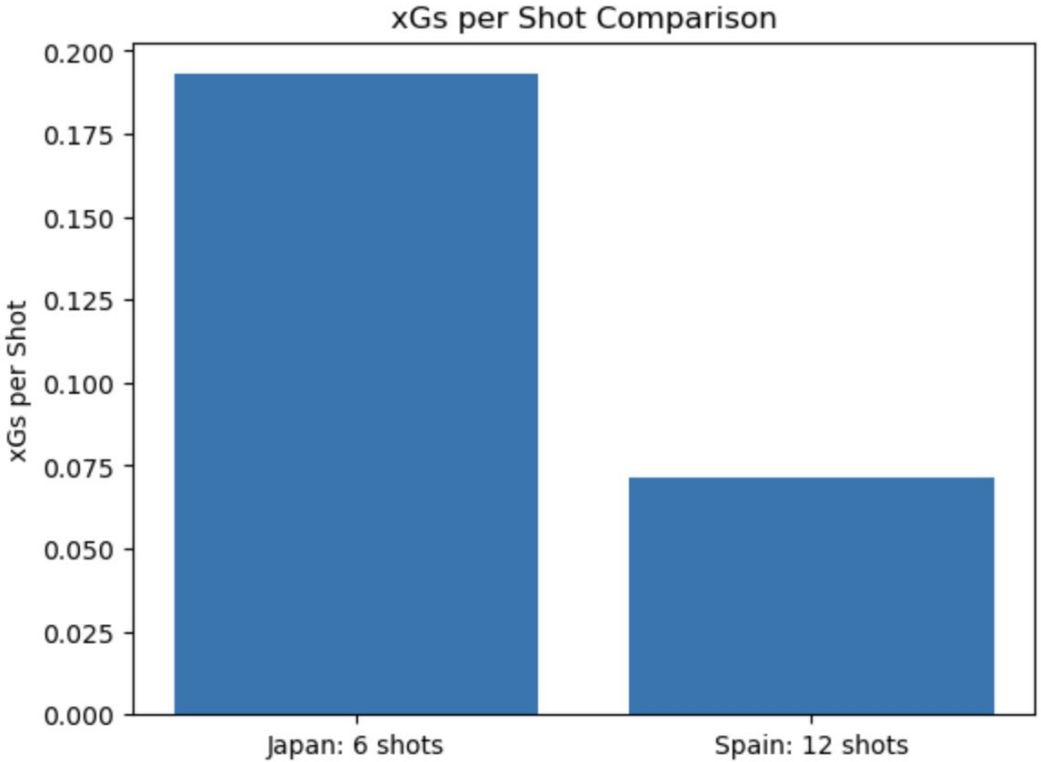
Total Cumulative xGs

- Japan: **1.16**
- Spain: **0.86**

Japan with a better total xGs.
Let's examine each shot.



Average xGs per Shot



Japan’s average xG per shot is over double that of Spain’s.
On top of that, Japan made the most of 6 shots, where as Spain had 12.

Top 5 xG shots

	shot_statsbomb_xg	shot_outcome	minute	team
0	0.872618	Goal	50	Japan
1	0.331067	Goal	11	Spain
2	0.131218	Off T	69	Japan
3	0.123736	Saved	89	Spain
4	0.103853	Blocked	41	Spain

Japan created a very, very high-value chance and converted

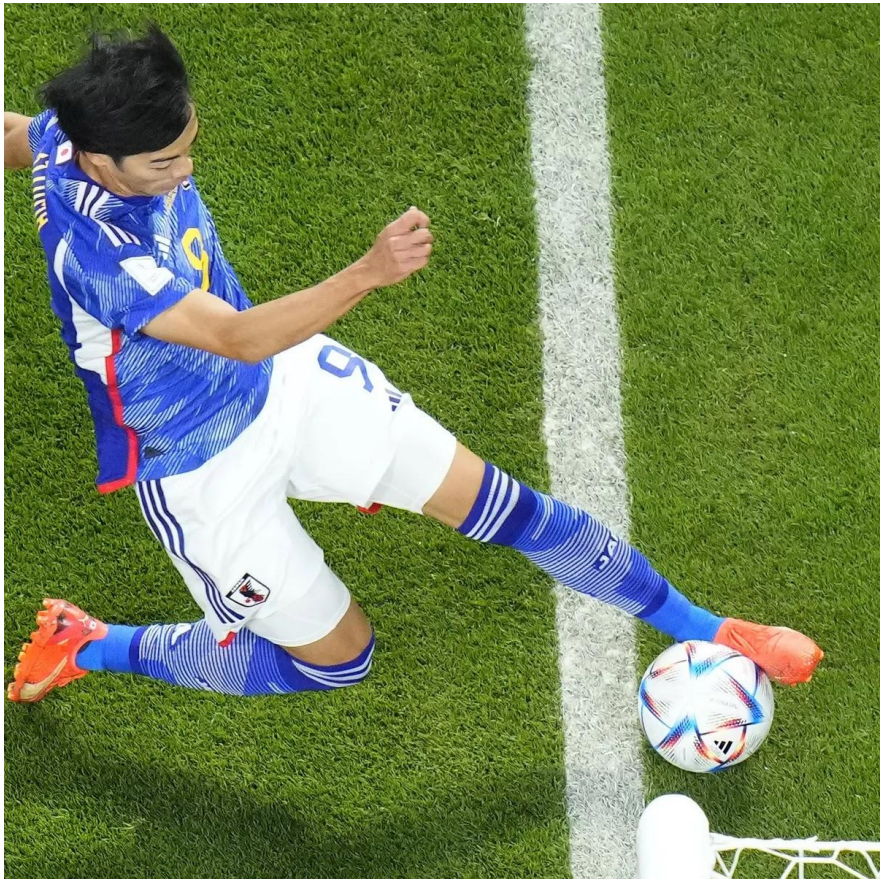
Goals xGs

	shot_statsbomb_xg	shot_outcome	minute	team
0	0.872618	Goal	50	Japan
1	0.331067	Goal	11	Spain
12	0.027778	Goal	47	Japan

Japan scored from a shot with 0.03 xGs, again.

The Controversy

Tanaka’s goal resulted in the highest xG shot of the match. If this ball was out of bounds, the shot wouldn’t have counted, lowering Japan’s xGs significantly.



Conclusion: Japan deserved to win

Japan

- Higher quality chances.
- Took advantage of opportunities.
- Low possession, but highly productive.

Spain

- Over-all low-value chances.
- Dominated possession but very little productivity.

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- Link to other analysis
- My Analysis of the teams from the 2022 World Cup
- LinkedIn
- Github

Please don’t hesitate to reach out for more analysis on different teams or players!