

Risk Board Game Strategy Assessments

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1 Background

“The individualist without strategy who takes opponents lightly will inevitably become a captive.”[1]

1.1 History

Risk was originally produced by parker brothers, now a division of hasbro. It was invented by the French film director Albert Lamorisse in 1957 and it was originally called “The Conquest of the World.”[2]

The creator of the game anticipated that it should take 90 minutes to complete, but many players end up with the board occupying their tables for days at a time.[3] With varying strategies and fragile alliances, Risk can be a drawn-out, yet intellectually fulfilling game.

1.2 Rules

This section could be expanded pretty nicely.

Risk is a turn-based for two - six players

In the standard Risk Game, Earth has six continents and 42 regions.

Attackers can use up to three dice (Note that the attackers must have at least three troops in order to attack with three dice)

Defenders can use up to two dice

2 Intricacies

The Startup game can set you up for success or failure. The player must not underestimate the importance of their choices while claiming territories.

Strategies are numerous. Watching your opponents’ moves and attempting to understand what their intent is can be the key to victory. The AI that we implemented in our assessment of strategies was not advanced enough to emulate this kind of behavior. Given more time, this may have been possible through exhaustive searching. However, human intuition is more powerful than machinery when it comes to identifying deceit.

3 Type of Strategies

3.1 Smallest Continent first

Popular strategy where the player looks to claim either Australia or South America as it is easier to defend due to the limited number of paths into and from the continent. Easy to build up forces as there are only four territories to maintain and the troop bonus is advantageous. Places troops on edges of its continents or near continents desired for conquering

3.2 Continents First

Player strategically seeks to claim each continent and doesn’t branch out unless a continent can be claimed
Defensive playstyle

3.3 Territory First

Player aims to prevent others from claiming continents by securing territories Aggressive playstyle

3.4 Prey on the weak

Always targets the weakest bordering country When placing, always prefers the least-claimed continent Prey on the strong Always attack the owner of a continent, if possible, so that no extra points are gained. Choose the strongest territory owned by the strongest opponent to attack, so long as two dice can still be used.

4 Probability of outcomes

Your understanding of probabilities can greatly help your chances of not dying early on.

Best probability is having the attacker attack a defender with only one dice.

This would be a great place to add Joseph's calculations.

5 Strategy Assessment

5.1 Generation

This is how we generated our strategies

5.2 Simulation

This is how we ran our simulations

5.3 Statistics

These are our results

References

- [1] The Art of War by Sun Tzu
- [2] [http://en.wikipedia.org/wiki/Risk_\(game\)](http://en.wikipedia.org/wiki/Risk_(game))
- [3] <http://io9.com/5897532/the-origins-and-evolution-of-the-strategy-board-game-risk>