**Why does the Pythagorean Expectation formula work?**

1. The Pythagorean Expectation Formula’s origins, two questions: why this formula? Why 2?

2. why 2? Other sports

3. why this formula? The Weibul connection

3. Latent variable models of quality, points scored

4. S-curve models for binary dependent variables

5. Logistic error, the Logit model, Pyth exp IS the logit model

6. Why logs instead of levels? (show the approximation formula)

7. Thinking about the error term: probit (normal), logistic (logit), weibul (logit in logs), others

8. Why doesn’t the Pytahgorean expectation work for soccer and hockey? … Because the error the in soccur is discrete, draws should be from Poisson. We can do that.

**Focus on the Error Term: Use and Abuse of Monte Carlo Simulations**