

An Empirical Study on the Probability of Winning: The Case of National Basketball Association (NBA)

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In the National Basketball Association (NBA), General Managers continually look to find a winning formula. This paper examines the key determinants of winning proportion in the National Basketball Association by using 'General-to-Specific' regression analysis with NBA season data sets (2003-2006). We specify the model by using various diagnostic test statistics on whether each equation passes the test for first-order serial correlation, functional form misspecification, and non-normality and heteroskedasticity of residuals. Each test statistic was evaluated at the 5% significance level. In addition, we use the Schwarz criterion to select the final model. This study depicted the estimation results on the generic model and the final specified model through the 'general-to-specific' technique. The tests reported constitute residual tests and stability tests on the estimated coefficients, including a Lagrange multiplier (LM) test statistics for first order serial correlation; ARCH, an LM statistics of testing first order autocorrelated squared residuals with the null of no autoregressive conditional heteroscedasticity (Engle, 1982); Jarque-Bera statistic for testing normality; and RESET, the regression specification test proposed by Ramsey (1969), which tests the null of correct specification against the alternative that the residuals are correlated with powers of the fitted values of the regressand.

The empirical findings show that the most successful factor that contributes to winning is having an All-Defensive 1st Team member. Other factors such as the Coach of the Year, Rookie of the Year, and Most Valuable Player recipients play an important part in winning. Surprisingly, some variables considered vital to winning are in fact insignificant factors towards team success. The highest spending team is not always the best team. In addition, the phrase, Offense wins games, defense wins championships, is not supported by the empirical tests. In fact, offense and defense appear to have similar effects on winning with neither one being more important than the other is.