

TESTING FOR EFFICIENCY IN LOTTO MARKETS

FRANK A. SCOTT JR., O. DAVID GULLEY

First published: April 1995

<https://doi.org/10.1111/j.1465-7295.1995.tb01855.x>



Abstract

State-sponsored lotto games, because they are pari-mutuel and because jackpots with no winner are rolled over into the next drawing, present an excellent opportunity to test for market efficiency. Using data from Massachusetts, Kentucky, and Ohio, we investigate bettors' responses and test for weak-form efficiency. Lotto bets do not have positive net expected returns, thus weak-form efficiency exists. To evaluate strong-form efficiency we utilize the concept of a rational expectations equilibrium. We find that in general lotto bettors' decisions to play generate a level of sales that conform to their original forecasts of expected value.

References

Ali, M. "Probability and Utility Estimates for Racetrack Bettors." *Journal of Political Economy*, 85, August 1977, 803-15.

[Web of Science®](#) | [Google Scholar](#)

Ali, M. "Some Evidence of the Efficiency of a Speculative Market." *Econometrics*, 47, March 1979, 387-92.

[Web of Science®](#) | [Google Scholar](#)

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Manage Preferences

Accept All

Reject Non-Essential

Chernoff, H. "How to Beat the Massachusetts Numbers Game." *Mathematical Intelligencer*, 3(4), 1981, 166-72.

[Google Scholar](#) 

Clotfelter, C., and P. Cook *Selling Hope: State Lotteries in America*. Cambridge : Harvard University Press, 1989.

[Google Scholar](#) 

Cook, P., and C. Clotfelter "The Peculiar Scale Economies of Lotto." Working paper, Duke University, 1990.

[Google Scholar](#) 

Fama, E. "Efficient Capital Markets: A Review of Theory and Empirical Work." *aJournal of Finance*, 25, May 1970, 383-417.

[Web of Science®](#)  | [Google Scholar](#) 

Fama, E. "Efficient Capital Markets: II." *Journal of Finance*, 46, December 1991, 1575-1617.

[Web of Science®](#)  | [Google Scholar](#) 

Fama, E. "The Degree of Inefficiency in the Football Betting Market." *Journal of Financial Economics*, 30, December 1991, 311-23.

[Web of Science®](#)  | [Google Scholar](#) 

Gulley, D., and F. Scott "The Demand for Wagering on State-Operated Lotto Games." *National Tax Journal*, 46, March 1993, 13-22.

[Web of Science®](#)  | [Google Scholar](#) 

LeRov. S. "Efficient Capital Markets and Martingales." *Journal of Economic Literature*. 27. December 1989.

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Manage Preferences

Accept All

Reject Non-Essential

Pope, P., and D. Peel "Information, Prices and Efficiency in a Fixed-Odds Betting Market." *Economica*, 56, August 1989, 323-41.

[Web of Science®](#) | [Google Scholar](#)

Sauer, R., V. Brajer, S. Ferris, and W. Marr "Hold Your Bets: Another Look at the Efficiency of the Gambling Market for National Football League Games: Comment." *Journal of Political Economy*, 96, February 1988, 206-13.

[Web of Science®](#) | [Google Scholar](#)

Saunders, S., and M. Moody "Great Expectations: or Playing the Odds in the State Lotteries." *Northwest Science*, 61(4), 1987, 239-48.

[Web of Science®](#) | [Google Scholar](#)

Snyder, W. "Horse Racing: Testing the Efficient Markets Model." *Journal of Finance*, 33, September 1978, 1109-18.

[Web of Science®](#) | [Google Scholar](#)

Thaler, R., and W. Ziemba "Pari-mutuel Betting Markets: Racetracks and Lotteries." *Journal of Economic Perspectives*, 2, Spring 1988, 161-74.

[Web of Science®](#) | [Google Scholar](#)

Zuber, R., J. Gandar, and B. Bowers "Beating the Spread: Testing the Efficiency of the Gambling Market for National Football Games." *Journal of Political Economy*, 93, August 1985, 800-06.

[Web of Science®](#) | [Google Scholar](#)

Citing Literature



This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)



Manage Preferences

Accept All

Reject Non-Essential

About Cookies

Manage Cookies

Accessibility

Wiley Research DE&I Statement and Publishing Policies

HELP & SUPPORT

Contact Us

Training and Support

DMCA & Reporting Piracy

Sitemap

OPPORTUNITIES

Subscription Agents

Advertisers & Corporate Partners

CONNECT WITH WILEY

The Wiley Network

Wiley Press Room

Copyright © 1999-2026 John Wiley & Sons, Inc or related companies. All rights reserved, including rights for text and data mining and training of artificial intelligence technologies or similar technologies.

WILEY

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)



Manage Preferences

Accept All

Reject Non-Essential