Absolute and relative risk aversion: An experimental study

Published: May 1994

Volume 8, pages 289–307, (1994) Cite this article

Journal of Risk and Uncertainty

Aims and scope →

Submit manuscript →

Haim Levy[1]

Abstract

Kenneth Arrow posed the hypotheses that investors reveal decreasing absolute risk aversion (DARA) and increasing relative risk aversion (IRRA). It is very difficult to empirically test these two hypotheses since one needs to analyze an investor's investment decisions at various points in his/her economic life cycle as the investor's wealth varies. An experimental study is conducted to test these two hypotheses when the subject's wealth varies depending on his/her investment performance. The experiment involves an actual money gain or loss which is indexed to the individual's investment performance. It is found that DARA is indeed strongly supported, but IRRA is rejected.

References

Arrow, K.*Essays of the Theory of Risk Bearing*. (1971). Chicago: Markham Publishing Company.

Google Scholar

Aumann, R. J. (1987). “Game Theory.” In John Eatwell, Murray Milgate, and Peter Newman (eds.),*The New Palgrave*, Vol. 2. London: Macmillan.

Google Scholar

Briys, Eric, Louis Eeckhoudt, and Henri Loubergé. (1989). “Endogenous Risks and the Risk Premium,”*Theory and Decision* 26, 37–46.

Google Scholar

Fishburn, C. Peter. (1988). “Expected Utility: An Anniversary and New Era,”*Journal of Risk and Uncertainty* 1, 267–283.

Google Scholar

Fiorina, Morris P., and Charles R. Plott. (1978). “Committee Decision Under Majority Rule: An Experimental Study,”*American Political Science Review* 72 (June), 575–86.

Google Scholar

Forsythe, Robert, Thomas R. Palfrey, and Charles R. Plott. (1982). “Asset Valuation in an Experimental Market,”*Econometrica* 50 (May), 537–67.

Google Scholar

Friend, I., and M. Blume (1975). “The Demand for Risky Assets,”*American Economic Review* (December), 900–927.

Google Scholar

Grether, David M., and Charles R. Plott. (1979). “Economic Theory of Choice and the Preference Reversal Phenomenon,”*American Economic Review* 69 (September), 623–38.

Google Scholar

Hogarth, Robin and Melvin W. Reder, eds. (1987).*Rational Choice: The Contrast Between Economics and Psychology*. Chicago: University of Chicago Press.

Google Scholar

Kahneman, Daniel, Paul Slovic, and Amos Tversky, eds. (1982).*Judgment Under Uncertainty: Heuristics and Biases*. New York: Cambridge University Press.

Google Scholar

Kahneman, Daniel, and Amos Tversky (1979). “Prospect Theory: An Analysis of Decision Under Risk,”*Econometrica* 47 (March), 263–91.

Google Scholar

Kroll, Yoram, and Haim Levy. (1992). “Further Tests of the Separation Theorem and the Capital Asset Pricing Model,”*American Economic Review* 82, 664–670.

Google Scholar

Kroll, Yoram, Haim Levy, and Harry M. Markowitz (1984). “Mean-Variance versus Direrct Utility Maximization,”*Journal of Finance* 39 (March), 47–61.

Google Scholar

Kroll, Yoram, Haim Levy, and Amnon Rapoport. (1988). “Experimental Tests of the Mean-Variance Model for Portfolio Selection,”*Organizational Behavior and Human Decision Processes* 42, 388–410.

Google Scholar

Kroll, Yoram, Levy Haim, and Rapoport Amnon. (1988). “Experimental Tests of the Separation Theorem and the Capital Asset Pricing Model,”*American Economic Review* 78, 500–519.

Google Scholar

Levy, Haim, and Paul A. Samuelson. (1992). “The Capital Asset Pricing Model with Diverse Holding Period,”*Management Science* 38, 1529–1542.

Google Scholar

Lintner, John (1965). “The Valuation of Risk Assets and the Selection of Risky Investment in Stock Portfolios and Capital Budgets,”*Review of Economics and Statistics* 47, 13–17.

Google Scholar

Markowitz, Harry, M. (1959). “Portfolio Selection,”*Journal of Finance* 7 (June), 77–91.

Google Scholar

Markowitz, Harry M. (1987).*Mean-Variance Analysis in Portfolio Choice and Capital Markets*. New York: Blackwell.

Google Scholar

Merton, R. W., and P. A. Samuelson. (1984). “Fallacy of the Log-normal Approximation to Optimal Portfolio Decision Making over Many Periods,”*Journal of Financial Economics* 1, 67.

Google Scholar

Plott, Charles, R. (1986). “Rational Choice in Experimental Markets,”*Journal of Business* 59 (October), 301–27.

Google Scholar

Plott, Charles R. (1987). “Rational Choice in Experimental Markets.” (1987). In Hogarth and Reder.

Plott, Charles, R., and Shyam Sunder. (1982). “Efficiency of Experimental Security Markets with Insider Information: An Application of Rational-Expectations Models,”*Journal of Political Economy* 90 (41), 665–697.

Google Scholar

Plott, Charles R., and Vernon L. Smith. (1978). “An Experimental Examination of Two Exchange Institutions,”*Review of Economic Studies* 45 (February), 133–53.

Google Scholar

Pratt, J. W. “Risk Aversion in the Small and in the Large.”*Econometrica* 32, 122–136.

Rapoport, Ammon. (1984). “Effect of Wealth on Portfolios Under Various

Investment Conditions,"*Acta Psychologica* 50 (February), 31–51.

Google Scholar

Rubinstein, M. (1976). "The Valuation of Uncertain Income Streams and the Pricing ofOptions,"*Bell Journal*, 407–25.

Samuelson, P. A. (1990). "Asset Allocation Could be Dangerous to Your Health,"*Journal of Portfolio Management* 16 (Spring) 5–8.

Google Scholar

Sharpe, William F. (1964). "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk,"*Journal of Finance* 19, 425–442.

Google Scholar

Smith, Vernon, L. (1962). "An Experimental Study of Comparative Market Behavior,"*Journal of Political Economics* 70 (April), 111–37.

Google Scholar

Smith, Vernon L. (1991). "Rational Choice: The Contrast between Economics and Psychology,"*Journal of Political Economy* 99, 878–897.

Google Scholar

Tversky, Amos. (1989). In William Sharpe and Katrina F. Shefered (eds.),*Quantifying the Market Risk Premium Phenomenon for Investment Decision Making.* The Institute of Chartered Financial Analysts (CFA), pp. 73–77.

Whitmore, Alex. (1970). "Third Degree Stochastic Dominance,"*American Economic Review* 60, 457–59.

Google Scholar

Zwick, Rami, and Amnon Rapoport. (1985). “Relative Gain Maximization in Sequential Three-Person Characteristic Function Games,”*Journal of Mathematical Psychology* 29 (September), 333–59.

Google Scholar

Author information

Authors and Affiliations

School of Business Administration, The Hebrew Univ. of Jerusalem, Mount Acopus, 91905, Jerusalem, Israel

Haim Levy

Rights and permissions

About this article

Cite this article

Levy, H. Absolute and relative risk aversion: An experimental study. *J Risk Uncertainty* **8**, 289–307 (1994). https://doi.org/10.1007/BF01064046

Issue date

May 1994

DOI

https://doi.org/10.1007/BF01064046

Key words

DARA CARA IARA DRRA CRRA IRRA

Search

Search by keyword or author

Navigation

Find a journal

Publish with us

Track your research