

ALFRED COWLES AND ROBERT RHEA ON THE PREDICTABILITY OF STOCK PRICES

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- Alfred Cowles, “Can Stock Market Forecasters Forecast?” *Econometrica* 1 (1933): No, they cannot – first item in Hooper and Nerlove *Selected Readings in Econometrics from Econometrica* (1970)
- Brown, Goetzmann and Kumar, *J. Finance* (1998): Cowles’s 1934 test of William Peter Hamilton’s version of Dow Theory flawed because Cowles (1934) did not use risk-adjusted rates of return, compared full-invested portfolio with Hamilton’s recommendations (which sometimes were for being out of the market)

- Repeated in William N. Goetzmann, *Money Changes Everything: How Finance Made Civilization Possible* (Princeton University Press, 2016), except for correction of date for Cowles article from 1934 to 1933
- Missed making of a similar point by Robert Rhea, *Dow Theory Comment*, Mailing No. 9 (January 18, 1933), in response to earlier version of what became Cowles (1933) – noticed by Peter Bernstein, *Capital Ideas* (1992, pp. 34-35)

- Alfred Cowles III, “The Stock Market Barometer,” Investment Supervisory Service Special Supplement, Colorado Springs, CO: Cowles & Company, Inc., 1931
- Robert Rhea, *The Dow Theory*, New York: Barron’s, 1932 – also a Colorado Springs resident, provided Cowles with a duplicate set of *Wall Street Journal* and *Barron’s* editorials from 1903 to 1929

- Cowles's October 1931 letter to Irving Fisher of Yale offering financial support for Econometric Society and for a research institute (which became Cowles Commission, now Cowles Foundation at Yale)
- Cowles, a Yale graduate, became treasurer of Econometric Society, circulation manager of *Econometrica*
- Tactfully avoided mention of Fisher's Oct. 1929 "permanently high plateau" of stock prices

- Following Rhea, Cowles (1933), Bernstein (1992), and Brown, Goetzmann and Kumar (1998) all thought Hamilton edited *WSJ* from Charles Dow's death in December 1902 until his own death on Dec. 2, 1929
- Hamilton became editor in January 1908 (two other editors between Dow and Hamilton)
- Of 260 editorials attributed to Hamilton in appendix to Rhea (1932), 18 during editorships of Thomas F. Woodlock and Sereno Stansbury Pratt

- Why focus on Hamilton to argue that stock forecasters could not forecast? (Fisher too easy a target)
- Hamilton was renowned for having been right about the Crash, in his editorial “The Turn of the Tide,” Oct. 21, 1929 – but “Hamilton had made similar predictions of impending disaster in January 1927, June 1928, and July 1928” (Bernstein 1992, p. 29) – like Roger Babson’s predictions of stock crashes in 1927 and 1928 as well as 1929 (and of stock recovery in 1930)

- From 1932 until his death in 1939, Rhea sent out 2 to 4 mailings each month of *Dow Theory Comment* to 6,000 subscribers
- Rhea (Jan. 1933) : Cowles had discontinued his investment advisory letter and “now pitches for the other team”
- According to Cowles (1933), Hamilton’s portfolio would have been long in stocks 55% of time, short 16%, in T-bills 29% (BGK long 46%, short 16%, T-bills 38%) -- Rhea and BGK note T-bills less risky

- Cowles (1933): fully-invested portfolio would have earned 15.5% p.a. compounded 1903-1929, Hamilton portfolio 12% p.a. compounded – but before adjusting for greater risk of fully-invested portfolio
- Rhea (1933): if Cowles had continued his sample period to date when Rhea wrote his comment instead of closing it with Hamilton's death on Dec. 2, 1929, the fully-invested portfolio would have lost 77%, and Hamilton's short position would have gained similarly, reversing the ranking of rates of return
- Hamilton portfolio: from \$100 in 1903 to \$2,003 in Dec. 1929, but over \$3,500 in Jan. 1933

- Rhea: rankings reversed if positions not closed as of Hamilton's death, Dec. 2, 1929 – crash indicates riskiness of fully-invested portfolio
- The contribution of Brown, Goetzmann, and Kumar: Hamilton portfolio had higher risk-adjusted rate of return than fully-invested portfolio even without extending sample period

- Cowles and Herbert E. Jones, *Econometrica* (1937), cited by Malkiel in *New Palgrave* entry on efficient markets as finding “serial correlation between successive [stock] price changes was essentially zero” but actually reported the opposite finding
- Holbrook Working (1960), Cowles (1960): monthly averaging of daily or weekly prices would introduce positive correlation even if underlying series was random (cf. Slutsky 1937)

- Cowles (1933) compared 24 random portfolios with 24 financial publications for Jan. 1928 to June 1932 (other than Hamilton) – no evidence forecasters better than random portfolios
- Cowles, “Stock Market Forecasting,” *Econometrica* (1944) examined 11 survivors from 1933 sample
- Ten no better than chance (5 above market average, 5 below)

- “It was found possible to extend back to 1903 the published record of the forecasting agency with the most successful record for ... 1928 to 1943. While three individuals were for different periods responsible for the forecasts ... the general principles followed by them all were similar and the succeeding forecasters were avowed disciples of their predecessors” (Cowles 1944, p. 210)

- Eleventh forecaster earned 14.2% p.a. 1903-1943, compared for 10.9% (incl. dividends) for portfolio fully invested in Dow-Jones industrial average – consistent across sub-periods, with losses in only two sub-periods (market average lost even more in those sub-periods)
- “likelihood that whatever success may be claimed for the very consistent 40-year record is not entirely accidental” (Cowles 1944, p. 214, concluding paragraph of the article)

- Three forecasters following same principles since 1903 would match William Peter Hamilton (thought by Cowles, Rhea, BGK to have edited WSJ from Dow's death in Dec. 1902), then Robert Rhea until his death in Nov. 1939, then Percy Greiner of Rhea, Greiner & Company
- Babson Statistical Organization can also traced back to 1903, but not three successive forecasters, just Roger Babson

- So, before Brown, Goetzmann and Kumar (1998), Cowles's 1933 finding that stock forecasts (and in particular Hamilton's version of the Dow Theory) did no better than chance was challenged by Robert Rhea (1933) – and by Cowles (1944)!
- Cf. Mandelbrot's 1967 discovery that Bachelier (1914) no longer followed the claim of Bachelier (1900) that empirical evidence suggested asset price changes were draws from a Gaussian population