Impact of Interest Rate Changes on Equity Prices: A Review
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Monetarist Foundations of Early Studies
- Theoretical chain of monetary policy transmission articulated by Brunner (1961), Friedman (1961), Friedman and Meiselman (1963), Friedman and Schwartz (1963)

Monetary Portfolio Model
- Assumption: Public seeks to maintain desired balance sheet
- Effect of increase in money supply and decrease interest rates via monetary policy:
  - Public response: reducing money holdings and purchase low-risk fixed income
  - Bond price increase/rate decrease spurs equity and real asset purchases

Graphical Analysis
- First performed by Sprinkel (1964) and Palmer (1970) with updated data by Sprinkel (1971)
- Appears to show money supply growth leads stock price growth
- Implies a profitable trading rule contradicting weak form efficient market hypothesis (EMH) summarized by Fama (1970)
- Major Flaw: Hindsight bias – favorable buy/sell points selected arbitrarily and retrospectively
- Literally executed trading rule matched buy and hold performance (Roeff 1974)

First Regression Analysis
- Money supply changes leading stock price changes:
  - Palmer (1970) introduced a simple regression analysis
  - Finds a correlation coefficient of 0.44 but does not identify regression variables or methodology
  - Likely autocorrelation from using stock price six month moving avg
- Keran (1971) complex regression model to predict stock prices:
  - Independent Variables: real money, real GNP, "expected inflation",
  - Produced $3.88 and money supply leading stock prices by 2 qtrs.
- Major Flaws (Miller 1972):
  - Low D-W statistic signals misspecification
  - Lag mixed with a high-order polynomial fits only sample period
  - Stock and earnings levels (not changes) -> common trend
- Homa and Jaffee (1971) reproduced a simplier equation of Keran (1971)
- Major Flaws: The same as Keran (1971)
- Hamburger and Kochin (1972):
  - Finds money supply leads stock prices by two quarters
  - Major Flaw: Almon lag use necessarily induces leading result
- General Issue: Timing of data
  - Money supply data is released with a publication lag
  - Initial estimates are also subsequently revised which are entered in archives
  - Studies ignoring this lag produce ex-post rules that are not useful ex-ante and therefore does not disprove the EMH

Second Regression Analysis
- Literature review by Selin (2001)
- Examining equity price reactions to monetary policy decisions produces split results between money supply (M1) and interest rates (DR, FF).
  - M1 is problematic because it can also represent money demand.

Regressing Interest Rate Changes on Equity Prices

Second Regression Analysis
- Money supply changes lagging stock price changes:
  - Cooper (1974):
  - Theoretical reconciliation of the EMH and Monetary Portfolio model
  - Finds a relationship between stock returns and money supply growth
  - Money supply growth leads stock returns by up to one month
  - Roeff (1974):
  - Critique of prior regression analysis
  - Findings consistent with the EMH – money supply changes do not lead stock returns
  - Greatest coefficient is a lag of 2 months – the stock market appears to predict future changes in money supply
  - Rogalski and Vinso (1977):
  - Granger causality tests supports a bi-directional theory of causality
  - Causality from stock prices to money supply follows by reverse

Contemporary Importance – Rate Hiking Cycle
- Monetary Policy Makers
  - Financial conditions - higher valuations support capital raising and real investment
  - Wealth Effect – may alter economic demand by consumers with investments
- Investors
  - Equity Risk Premium theory suggests rate increases should shift investments to fixed income and decrease equity valuations