<u>Monetary Policy Targets (4/5/2011)</u> Econ 310-008

Definitions

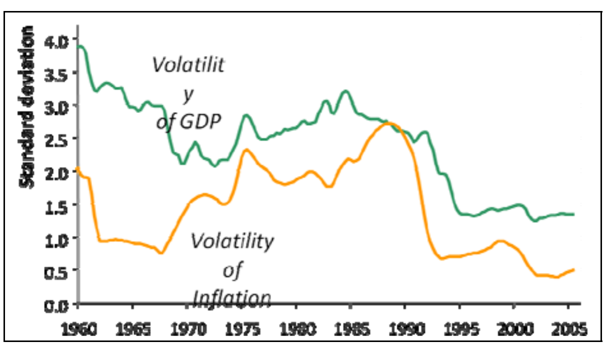
- ***policy instrument*** – variable that responds to tools and indicates stance (easy, tight) of monetary policy
- ***intermediate target*** – stands between the instruments and goals of monetary policy
- ***monetary targeting*** – central bank announces targets for annual growth rate of a monetary aggregate
- ***real bills doctrine*** – creation of paper or credit money will not cause inflation as long as the money is issued in exchange for sufficient security (thoroughly discredited)
- ***procyclical*** – economic quantity positively correlated with state of economy; up in booms, down in busts
- ***countercyclical*** – economic quantity negatively correlated with state of economy
- ***automatic stabilizers*** – policies that stimulate or depress the economy when necessary without any deliberate policy change (designed to reduce lags)
- ***rules*** – policymakers announce in advance how policy will respond in various situations, and commit themselves to following through
- ***discretion*** – as events occur and circumstances change, policymakers use their judgment and apply whatever policies seem appropriate at the time
- ***time inconsistency*** – policymakers have an incentive to renege on a previously announced policy once others act

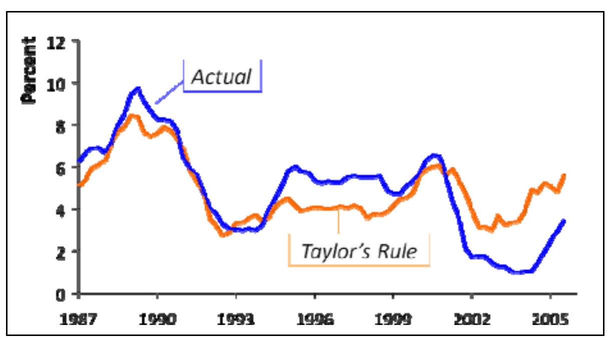
Equations

- $\mathbf{i_{ff} = \pi + 2 + 0.5(\pi - 2) + 0.5[100(y - y_n)/y_n]}$ Taylor Rule
- i_{ff} = (inflation rate) + (equilibrium real fed funds rate target) + 0.5(inflation gap) + 0.5(GDP gap)

Variable definitions

- $i_{ff} \equiv$ nominal federal funds rate target
- $\pi \equiv$ inflation rate
- $y \equiv$ real GDP
- $y_n \equiv$ real GDP at natural rate of unemployment
- equilibrium real federal funds rate = 2
- inflation gap = $\pi - 2$
- GDP gap = $100(y - y_n)/y_n$
  - percent GDP below natural rate





Monetary policy

- tools
  - open market operations
  - discount rate
  - required reserve ratio
- instruments
  - reserve aggregates
    - reserves
    - non-borrowed reserves
    - monetary base
  - interest rates
    - short-term interest rates
    - federal funds rate
- targets
  - monetary aggregates
    - M1
    - M2
  - interest rates
    - inflation rate
    - long-term interest rate
    - short-term interest rate
- goals
  - price stability
  - high employment
  - economic growth
  - financial market stability
  - interest-rate stability
  - foreign exchange stability

Policies

- Active policy advantages
  - monetary policy can stabilize economy
  - fiscal policy can stabilize economy
- Passive policy advatages
  - long & variable lags to policies
    - Milton Friedman emphasized this
    - may de-stabilize when takes effect
- Rules advantages
  - distrust of policymakers & political process
  - time inconsistency

Targeting

- monetary targeting (United States)
  - money supply growth targets announced
    - Arthur Burns in 1975
    - often missed targets
  - focus on non-borrowed reserves
    - Paul Volker in 1979
  - won't use monetary aggregates
    - Greenspan in 1993
- inflation targeting
  - medium-term numerical target for inflation
    - public announcement
  - commitment to price stability
    - primary, long-run goal
  - many variables are used in making decisions
  - increased transparency of the strategy
  - increased accountability of the central bank
- no explicit nominal anchor
  - no overriding concern for the Fed
  - used by the Fed recently
  - "just do it" approach
  - forward looking behavior
  - periodic "preemptive strikes"
  - goal: prevent inflation from getting started

Monetary policy rules

- constant money supply growth rate
  - advocated by monetarists
  - Friedman k-percent rule
    - 4% per year
- target growth rate of nominal GDP
- target the inflation rate
- the Taylor Rule
  - target the federal funds rate
  - based on
    - inflation rate
    - GDP gap
    - inflation gap
  - proposed by John Taylor
  - examples
    - if $\pi = 2\%$ & $y = y_n$, $i_{ff} = 4\%$
    - $\pi\uparrow$ by 1% $\rightarrow$ $i_{ff}\uparrow$ by 1.5%
    - $(y - y_n)\uparrow$ by 1% $\rightarrow$ $i_{ff}\uparrow$ by 0.5%

History of Federal Reserve policy

- Early years of the Fed (1913-1921)
  - discount loans the primary policy
  - real bills doctrine (discredited)
- Discovery of OMO (1921-1929)
  - Federal Reserve needed more revenue
  - invested in income earning securities
  - open market operations
    - accidentally discovered
- Great Depression (1929-1941)
  - raised discount rate too late
  - bank failures reduced money supply
    - Fed didn't understand
    - M1 contracted 25%
    - believed was expanding M^s
  - Fed didn't act as LOLR
- Reserve requirements (1933-1941)
  - reserve requirements power
    - got 1933, expanded 1935
  - ER hurt monetary policy
  - raised reserve requirements
    - caused 1937-1938 recession
    - "double dip"
- Pegging of interest rates (1942-1951)
  - skyrocketed government spending
    - finance WWII cheaply
  - pegged interest rates
  - if interest rates on bonds rose
    - open market purchases
    - interest rates would fall
  - rapid growth in MB & money supply
- Targeting money market (1950s, 1960s)
  - intuitive judgment
    - money market feel
    - i.e., interest rates
  - pro-cyclical policy (for M)
    - $Y\uparrow \rightarrow i\uparrow \rightarrow MB\uparrow \rightarrow M\uparrow$
    - $\pi\uparrow \rightarrow \pi e\uparrow \rightarrow i\uparrow \rightarrow MB\uparrow \rightarrow M\uparrow$
    - monetarists criticized
- Targeting monetary aggregates (1970s)
  - wasn't really monetary targeting
    - actually used fed funds rate
  - still pro-cyclical policy (for M)
- New operating procedures (1979-1982)
  - de-emphasis on fed funds rate
  - main: non-borrowed reserves
  - still used interest rates
  - Paul Volcker was Fed chair
  - not serious about aggregates
    - avoided blame for high interest rates
  - anti-inflation strategy
- De-emphasis of monetary aggregates (1982-1993)
  - borrowed reserves main instrument
    - discount loans
  - pro-cyclical policy (for M)
  - breakdown in M:GDP relationship
- Federal funds targeting II (1993-present)
  - monetary aggregates not used
  - federal funds rate main instrument/target
    - announced starting 1994
- Other considerations
  - pre-emptive strikes against inflation
  - pre-emptive strikes against recessions
  - international considerations