The case for expanding the monetary base

1. It increases the price level.
2. It increases the inflation tax, depreciates the public debt, and allows a reduction of other distortionary taxes.

Comments

- Focus on (1): Not convincing.
  - Theory: Future monetary-base expansion not credible.
- Regarding (2): Not controversial, if (1) holds (and suitable initial conditions).

Main result

- Assumption 1:
  \[ i_t = 0 \quad (0 \leq t \leq T - 1) \]
  \[ i_t > 0 \quad (t \geq T) \]

- Under flexible prices:
  \[ m_T \uparrow \Rightarrow p_0 \uparrow \]

- Under sticky prices:
  \[ m_T \uparrow \Rightarrow p_{t|0} - p_0 \uparrow, \quad r_0 = 0 - (p_{t|0} - p_0) \downarrow, \quad y_0 \uparrow \]

- Assumption 2:
  \[ m_T = m_0 + a \]

- Then \( m_0 \uparrow \) has the same consequences as \( m_T \uparrow \)

Theory

- Fisher equation
  \[ i_t = r_t + p_{t+1|t} - p_t \]

- Money demand
  \[ i_t > 0: \quad m_t = p_t + y_t - \eta t \]
  \[ i_t = 0: \quad m_t \geq p_t + y_t \]

\( \eta \geq 0; \) cash in advance: \( \eta = 0 \)

- Simplifying assumptions
  1. Flexible prices
  2. \( m_t = m_T \quad (t \geq T) \)
  3. \( r_t = r, \quad y_t = y \)

More theory

- Fisher equation for \( p_0 \)
  \[ p_0 = P_{t|0} + r_0 - i_0 \]
  \[ = P_{T|0} + \sum_{t=0}^{T-1} (r_{t|0} - i_{t|0}) \]
  \[ = P_{T|0} + (T-1)r \]
• Fisher equation and money demand equation for \( p_T \)

\[
p_T|0 = p_T+1|0 + r_T|0 - i_T|0
\]

\[
= p_T+1|0 + r_T|0 + \frac{1}{\eta} (m_T|0 - p_T|0 - y_T|0)
\]

\[
= \sum_{\tau=0}^{\infty} \frac{1}{1 + \eta} \left( \eta T_\tau \right) (\eta m_T+\tau|0 + m_T+\tau|0 - y_T+\tau|0)
\]

\[
= m_T + \eta r
\]

• Combine

\[
p_0 = m_T + \eta r - (T - 1) r
\]

\[
\frac{\partial p_0}{\partial m_T} = 1
\]

Problems

• No direct relation between \( m_0 \) and \( m_T \): \( m_0 \uparrow \Rightarrow m_T \uparrow \)
  \begin{itemize}
  \item \( m_T \uparrow \) is not credible, expectations may not be affected
  \item Krugman 98: “Commitment to future irresponsibility”
  \item Commitment to future money supply (nominal government liabilities) would avoid liquidity trap (Woodford 99; Svensson 99; Benhabib, Schmitt-Grohé, Uribe 02)
  \item Auerbach-Obstfeld: “[The central bank] need only commit itself not to reverse one-off increases in the money supply’s level.”
  \item But \( m_T \) lower when \( i_T > 0 \).
  \item No commitment in terms of money supply (no monetary targeting); instead commitment to price stability, inflation targeting
  \end{itemize}

• High inflation target need not be credible
  \begin{itemize}
  \item No current action beyond announcement?
  \item Future deviation/change in inflation target?
  \end{itemize}

Solution

• Open economy: Depreciate the currency (McCallum, Meltzer, Bernanke, Orphanides-Wieland, Coenen-Wieland, ...)

• The Foolproof Way (Svensson 01, Coenen-Wieland 02)
  \begin{enumerate}
  \item Price level target
  \item Currency depreciation and temporary peg
    \begin{itemize}
    \item Dramatic action, not just talk
    \item Creates inflation expectations
    \item Lowers long real interest rates
    \item Jump-starts the economy
    \item Creates inflation
    \end{itemize}
  \item Exit strategy: Abandon peg and introduce inflation targeting when price-level target reached
  \end{enumerate}

• The Foolproof Way is likely to work for the U.S. and the euro area as well as for Japan (Svensson 03)