

ECONOMIC POLICY

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Course Material Developed by Department of Economics,
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Presentation

Inflation and expectations

Presentation 1

- How did four serious inflationary periods come to an end?
- Sargent (1992): Rational expectations and inflation, Chapter 3. Pearson 1992

Inflation theories

- Adaptive expectations
 - Expectations are based on the past, not reacting to present and future polic measure.
- Rational expectations
 - Present information on policy is taken into account.
- Elimination of inflation
 - Requires transparency of policy change.

After 1920

- USA – gold standard
- Countries in this study: money printing, monetary financing of the deficit, inflation
- After hyperinflations, returning to gold
- Not 100 percent backing by gold
- Individual actions versus the change of the regime

Examples for regime change

- Austria, Hungary, Poland, Germany
- Common features
 - Similar fiscal policies, high deficit
 - Drastic changes (monetary and fiscal)
 - Sudden liberalization of the forex market

The monetary base grows further

Austria

- War damages
- Transition to peace – unemployment
- Food subsidies out of the budget
- Deficit amounts to 50% of spending
- Monetary base increases
- Cash supply grows 288 fold
- Price level increases, currency depreciates, capital flight
- League of Nations. The Austrian government takes commitment for fiscal and

monetary stability

- Creation of independent Central Bank
- Consolidation of the budget
- Convertibility with the dollar
- Inflation slows although the money supply still grows fast

Hungary

- Uncertainty due to the mounting war reparation dues
- Due to this the budget cannot be stabilized
- Low interest loans granted to the private sector
- Inflation is faster than the money growth
- Depreciation, flight from the currency
- League of Nations – reconstruction plan
- Stabilization of the budget
- Independent Central Bank (1924)
- Large loan from the League of Nations
- Currency pegged to the Pound

Poland

- Newly established state, several monies in circulation
- Price level grows five fold of the currency supply
- Fast depreciation
- Budget is stabilized, independent Central Bank is established
- Convertibility to gold, inflation halts although the money supply still increases

Germany

- Mounting war reparation dues
- Makes budget unstable
- Tax collection is slow, budget misses the revenues
- 1923. Introduction of the Rentenmark
- Money financing of the budget is limited
- Issuance is based on private commercial papers
- Tax collection grows

Conclusions

- Independent Central bank counts
- Regime change in fiscal policy
- Inflation is not caused simply by the growth of currency, regime change, future tax revenues can stabilize inflation
- The system, the rules of fiscal policy are to be changed

Presentation 2

- Sargent and Wallace. (1981). Some unpleasant monetarist arithmetic. Federal Reserve Bank of Minneapolis Quarterly Review, Vol. 5 (Fall), pp. 1-17.

Who disciplines whom

- Monetary policy → fiscal policy
 - The monetary authority can manipulate inflation through collecting seigniorage income
- Fiscal policy → monetary policy
 - A monetary authority adjusts the money supply required by the set deficit path.
- The question is: how these two policies interact, which is dominating, which is adjusting

USA – empirical observations

- 1981 very high real return on government bonds
- Permanent deficit in the budget
 - Fiscal policy – Congress and the executive
 - Monetary policy: FED

Assumptions

- Monetary policy cannot influence any real variables (Friedman)
 1. Real income and population grows at a same constant rate n .
 2. Real return on government bonds is larger than n
 3. The income velocity of the demand for base money is constant

Theorem

If fiscal policy is given by the predetermined path of deficit D_t , then strict monetary policy in the present leads to inflation in the future.

Price level and inflation

- Growth of base money: $H_t = (1 + \theta) * H_{t-1}$
- Determination of the price level:

$$p_t = \frac{1}{h} * \frac{H_t}{N_t}$$

- Determination of inflation:

$$\frac{p_t}{p_{t-1}} = \frac{1 + \theta}{1 + n}$$

$N_1 > 0$ and $n > -1$

$$N_{t+1} = (1 + n) * N_t$$

$$D_t = \frac{H_t - H_{t-1}}{p_t} + B_t - B_{t-1} * (1 + R_{t-1;t})$$

$$\frac{B_t}{N_t} = \left[\frac{(1 + R_{t-1;t})}{1 + n} * \frac{B_{t-1}}{N_{t-1}} \right] + \left[\frac{D_t}{N_t} - \frac{H_t - H_{t-1}}{N_t * p_t} \right]$$

Conclusion

- A slowdown of the money supply in the present reduces the seigniorage financing of the current deficit. Therefore per capita debt grows faster. As debt has an upper limit, faster inflation follows in the future.

Cagan-type money demand function

- So far we used a money demand function that does not include forward looking. Empirical evidence, however, shows, that inflation expectation reduces money demand.
- Through this channel expected inflation in the future influences the present rate of inflation.

Alternativ money demand function

$$\frac{H_t}{p_t N_t} = \frac{\gamma_1}{2} - \frac{\gamma_2}{2} * \frac{p_{t+1}}{p_t}$$

Assumprions: $t \geq 1; \gamma_1 > \gamma_2 > 0$

Price level in t then is:
$$p_t = \frac{2}{\gamma_1} * \sum_{j=0}^{\infty} \left(\frac{\gamma_2}{\gamma_1}\right)^j * \frac{H_{t+j}}{N_{t+j}}$$

Conclusion

- Current price level (inflation) is not simply a function of the current money supply (money growth) but it is also a function of all the money supplies (money growth rates) of the future.
- Monetary policy expected in the future also counts.