Monetary Facts
Economics Principles

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Introduction

Facts regarding

- Inflation $\pi$
- Money growth rate $\mu$
- Nominal Interest rate $i$

Some cross-country evidence

Some Time series evidence
Inflation and Money Growth Rate

Money Growth and Inflation
Long-term growth rates, 110 countries

Inflation rate (percent)

Money (M2) growth (percent)
The World

Money versus Inflation per year

Inflation in Percent per year

Money growth in Percent

80
70
60
50
40
30
20
10
0
80
70
60
50
40
30
20
10
0
Inflation and Money Growth Rate

Sample Averages from Sixteen Latin American Countries, 1950-69

Annual Rate of M1 Growth

Annual Rate of CPI Inflation

\( \checkmark \) denotes grand mean
Inflation and Interest Rates: secular decline
Government Bond Yields and Inflation (Long run averages, 1961 to 1998)

Correlations:
- Overall: 0.78
- Developed: 0.79
- Developing: 0.62
Interest Rate and Inflation

Source: Economist Magazine
November 8, 2003

[Graph showing the relationship between short-term interest rate and inflation rate, with data points and a trend line.]
Money Market Rates and Money Growth (Long run averages, 1961 to 1998)

Correlations:
- Overall: 0.63
- Developed: 0.81
- Developing: 0.53

19 Developing countries
20 Developed countries
Government Bond Yields and Money Growth Rate (Long run averages, 1961 to 1998)

Correlations:
- Overall: 0.79
- Developed: 0.70
- Developing: 0.66

12 Developing countries
18 Developed countries
Interest Rate and Money Growth Rate

Money Market Rates and Money Growth 20 Developed Countries

Correlations:
5 year 0.52
Long run 0.81
Now some time-series evidence on interest rates, inflation and money growth
interest rates, Inflation and Money growth rate

**Figure 2**

**Figure 3**
Interest rates, Inflation and Money growth rate

Figure 4: Annual Rate of MI Growth vs. Annual Rate of CPI Inflation. Smoothened Data for 2nd Quarters, 1955-75.

Figure 5: % Annual Rate of MI Growth vs. Treasury Bill Rate. Smoothened Data for 2nd Quarters, 1955-75.
interest rates, Inflation and Money growth rate

Figure 6

Figure 7
Interest rates, Inflation and Money growth rate

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**Figure 8**

Annual Rate of CPI Inflation

![Chart showing the relationship between Annual Rate of M1 Growth and Annual Rate of CPI Inflation for 2nd Quarters, 1955-75. The slope is approximately 0.9.]

**Figure 9**

Treasury Bill Rate

![Chart showing the relationship between Annual Rate of M1 Growth and Treasury Bill Rate for 2nd Quarters, 1955-75. The slope is approximately 0.9.]

Interest rates, Inflation and Money growth rate

Figure 8

Figure 9
Inflation and money growth in the United Kingdom, raw data

(a) Composite price index\(^{\text{(a)}}\) and MO (annual rates of change)

Gold standard is reintroduced
Collapse of classical gold standard
Gold standard is abandoned
Beginning of Bretton Woods
Floating of the pound
Introduction of inflation targeting

- Inflation
- Base money growth
- %

1871 86 1901 16 31 46 61 76 91

(a) See O'Donoghue, Goulding and Allen (2004).
Components beyond 30 years

(a) Composite price index and MO (annual changes)

- Gold standard is reintroduced
- Collapse of classical gold standard
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- Beginning of Bretton Woods
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Base money growth

Inflation

1871 86 1901 16 31 46 61 76 91

Per cent

14 12 10 8 6 4 2 0

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Inflation and Money growth rate

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Inflation and Money growth rate

Figure 1 Low-frequency components of inflation and money growth since the Gold Standard era for Norway, the United Kingdom, Sweden, and Switzerland
Inflation and Money growth rate

Figure 2: Low-frequency components of inflation and money growth since the Gold Standard era for the United States.
Figure 3  Low-frequency components of inflation and money growth over the post-WWII era for the Euro area, the United Kingdom, Canada, Australia, Sweden, and Japan
References

- Lucas AER 1980
- Handbook of Monetry Economics